Response to Comments

C-089441

Attachment E
Response to Comments

Prospect Island, Solano County, California
July 1999

C-089442

PREFACE

The draft Project Modification Report (original title now revised to Ecosystem Restoration Report, or ERR) and Environmental Assessment/Initial Study were completed in October 1997 and distributed to Federal, State, and local agencies, organizations, and individuals for a 30-day public review period. Comments were submitted by letter and FAX, and all comments have been considered and incorporated into the report and environmental document as appropriate. This appendix includes the letters and FAX, comments, and the Corps responses to the comments. (Lengthy comments may be condensed or paraphrased.)

UPDATE

The location of the Appendixes and Attachments have been rearranged in the final report now known as the Ecosystem Restoration Report. Although the listed references made in the comments sections remain original to the draft PMR, the responses make reference to the newly relocated Appendixes and Attachments in the final ERR. In the table below, the original is listed with the new for easier referencing.

As Found in PMR:	As Found in ERR:
Project Modification Report	Ecosystem Restoration Report
Appendix A. Geotechnical Report	Appendix A. Letter of Intent
Appendix B. Confirmatory Environmental Site Assessment	Appendix B. Basis of Design
Appendix C. Environmental Assessment/Initial Study and FONSI	Appendix C. Itemized Cost Estimate
Attachment A. F&W Service Coordination Act Report	Appendix D. Real Estate Report
Attachment B. Endangered Species Information	Appendix E. Incremental Cost Analysis
Attachment C. DWR Proposed Monitoring Program	Appendix F. Geotechnical Reconnaissance Report
Attachment D. Farmland Conversion Impact Ratings	Appendix G. Hydraulic Analysis for Prospect Island Alternatives
Attachment E. Incremental Cost Analysis	Appendix H. Prospect and Ryer Island Hydrologic Analysis
Attachment F. Response to Comments	Appendix I. Analysis Conducted by Todd Engineers
Appendix D. Letter of Intent	Appendix J. Shallow Groundwater Level Trends
Appendix E. Basis of Design	Appendix K. Environmental Assessment/Initial Study and FONSI
Appendix F. Itemized Cost Estimate	Attachment A. F&W Service Coordination Act Report
Appendix G. O&M Cost Estimate	Attachment B. Endangered Species Correspondence
Appendix H. Hydraulic Analysis for Prospect Island Alternatives	Attachment C. DWR Proposed Monitoring Program
Appendix I. Real Estate Report	Attachment D. Prime and Unique Farmlands Evaluations and Correspondence
Appendix J. Prospect and Ryer Island Hydrologic Analysis	Attachment E. Comment Letters and Response to Comments
	Attachment F. Letter from the State Historic Preservation Officer

RESPONSES TO BUREAU OF RECLAMATION COMMENTS

The Bureau's review comments are detailed in two sets of comments. The first set focuses on potential seepage on Ryer Island and on geology and ground water, and the second set focuses on other issues in the main report.

FIRST SET OF COMMENTS

1. The paragraph on page 50 states that the seepage on Ryer Island issue can be resolved by conducting a limited exploration program, and developing a seepage model and analysis. We disagree. In preliminary discussions in September 1997 USBR did, however, concur with this approach. Now we believe that data from a limited program would not necessarily support a definite conclusion either way about significant hydraulic connectivity between the islands . . . USBR technical staff still maintains that any possible hydraulic connection between the islands is NOT the cause of the seepage on Ryer Island. The Miner Slough channel is so deep that it intercepts any common zones of high permeability that may be a source of seepage onto Ryer Island.

Page 56 "Further Studies" contains a similar statement recommending additional explorations to which we disagree.

> Response: Concur. Detailed geotechnical studies and analyses may never be completely conclusive in determining what effect if any flooding of Prospect Island may have on seepage at Ryer Island. We will delete the last part of the paragraph beginning with "Site-specific exploration . . . ." The third sentence of paragraph "Further Studies" in Chapter 5 will be changed to "Soil explorations will be conducted to assess the availability and quality of borrow materials as well as ensure pervious sand deposits are not exposed during construction of the interior channel cut. The range and variability in the groundwater table will also be evaluated for constructibility reasons."

2. Appendix J "Seepage Analysis" is mistitled. The Appendix is not an analysis, but rather a brief presentation of available instrumentation data with minimal interpretation. We concur with the observed trends and also believe this type of information may be the best evidence that seepage conditions experienced by Ryer Island are influenced by Miner Slough water levels, and not by Prospect Island water levels. We recommend that this data collection and analysis effort be continued. Also, the issue of potential seepage between islands and what actions are required to resolve the issue needs to be outlined more carefully in the report.

> Response: Comment noted. The data collection and analysis has continued and the most crucial well-data was gathered during the pumpout of Prospect Island during the fall of 1998. Data collection and analysis have been consistently conclusive (See Appendixes H, I

& J) and enough supporting information have been gathered, therefore, well monitoring is not planned to continue into the construction of the Prospect Island restoration project. Given the information available when this report was published, we believe that the actions required to resolve the issue are adequately described.

3. Page 16 "Flooding" needs to be updated to reflect completion of the breach repair on Nov 25, 1997. This section should also mention that there is substantial damage to both island side and Miner Slough side levee sideslopes. Some of these were repaired but others weren't. The cross levee may only have a 700 ft breach but both north and south sideslopes are severely damaged and will require repairs to re-establish the embankment.

Response: The text has been changed to reflect the comment. At the time of publication of this ERR, island perimeter breaches have been repaired, water pumped from the island and the cross levee repaired in January of 1999.

4. Since the breach in January 1997, there has been at least one drowning fatality as a boater was recreating near the breach area. Any planned breach particularly on the Miner Slough side will be a boating hazard to the general public, not just commercial shipping in the deep water channel.

Response: The hydraulic design report indicates that the breach design would result in low water velocities in Miner Slough. The breach on Miner Slough would be clearly marked with signs to alert boaters. However, the proposed breaches on Miner Slough would not affect commercial ship traffic. The breach on the ship channel side would not affect ship channel operations. (See the hydraulic design report.) According to Deputy Brackett of the Solano County Sheriff's Department, there have been no "near misses" between boaters. The invert elevation of the breach would be set at 0 feet msl.

5. Page 33 (and others). The discussion of O&M costs and responsibilities may not be complete. Confirm these costs and whether USBR will remain as owner of the property or responsible for any future maintenance costs.

The powerlines may not need to be relocated. They will be used to dewater the island during refuge construction but not in the long term. The pump station will likely eventually be removed.

Response: The O&M costs were reviewed. The O&M information is complete, and no changes to the O&M information were required. Reclamation will transfer title and maintenance responsibilities to the Service after the establishment period. PG&E may need to relocate power because the 9-acre privately held landowner requested power to his property. A project alternative to offer to buy the private property to reduce long-term project costs would also eliminate the need for power to the private parcel.

6. Page 55 "Flooding." Update status of repairs to USBR and Port breaches and levees.

Response: The second sentence has been revised to read: "Reclamation completed permanent repairs to the Miner Slough breach in November 1997." Also, the second "1997" has been changed to "1998."

7. General Comment: There is insufficient geotechnical data to support the statements and conclusions regarding the impacts of the project. Of particular concern are the report's statements on the long-term effects of ponding at the site and the potential for seepage to adjacent properties. It is suggested that the final report include a more detailed discussion of geology and groundwater and provide all available exploration and field data to support the various statements and conclusions in the report.

Response: Several comments address the need for detailed analyses, including geology, soils, surface water, ground water, and effects of tides on ground water. Currently, all available ground-water data have been analyzed. Based on existing data, there is no convincing evidence that there is a link between Prospect Island flooding and Ryer Island seepage. Results of the ground water-surface water comparison are detailed in Appendix H, I and J of the ERR. Geotechnical analyses relating to general soil conditions and constructibility issues can be found in Appendix F of the ERR. Additional geotechnical explorations will be conducted prior to construction to determine constructibility specifications.

CHAPTER II - EXISTING CONDITIONS

8. Page 13, Paragraph 2, Sentence 2 - Suggest replacing the phrase "upward at the northern portion of the site", with "upward at the northern and northeastern portions of the site."

Response: The sentence has been revised per the comment.

9. Page 13, Paragraph 2 - The writer might describe the drainage channels within the island. The description could include channel depths and the designed directions of flow.

Response: The "irrigation ditches, drains, and canals" on the island are mentioned in the discussion of vegetation/wildlife habitat in Chapter 2. The project would replace these irrigation features with natural habitat.

10. Page 13, Paragraph 3 - This is a poorly written paragraph. The writer probably could expand this discussion of "geologic history" into more than one paragraph. We suggest a rewrite.

Response: The paragraph has been revised to read: "The Delta began to take on its present form during the end of the last glacial period about 11,000 years ago as the sea

began to rise, filling the alluvial valley of the Sacramento River. Rivers and streams draining into the area formed a complex network of channels, islands, and sloughs. Alluvial materials accumulated along the banks of channels forming natural levees around islands. Spring rains and high tides caused floods which easily overtopped these natural levees forming a network of large, shallow lakes. Highly productive soils formed behind these levees as detritus from marsh areas accumulated and as nutrient-rich sediments and detritus were deposited by floodwaters."

11. Page 13, Paragraph 4, Sentence 1 - What is meant by the term "mineral" in the phrase "mineral alluvial fan deposits"? A detailed geologic description of soil types is needed including data on soil thicknesses, areal extent and continuity, how these soils relate to the passage of surface water into the groundwater system, and/or how the soils serve as barriers and/or facilitate vertical and horizontal movement of groundwater in the area.

Response: The word "mineral" has been deleted. See response to Reclamation comment 7, first set of comments.

12. Page 13, Paragraph 5 - This is a poorly written paragraph. It includes soils, ground water, permeability, the dredged spoil area, etc. There are too many subjects included for just one paragraph. We suggest a rewrite.

Response: The first sentence has been revised to read: "Soils in the project area include. . . ." This paragraph summarizes the soil conditions that directly affect the project design. Additional discussions of soils, ground water, permeability, and the dredged spoil area are found in Appendix F and section 4.5.1 of the EA/IS. Detailed geologic data cannot be included in the ERR or its appendixes since the Corps has been unable to conduct a detailed geologic study of the area. See response to Reclamation comment 7, first set of comments.

13. General comment: The statements and conclusions in this section are open to different interpretations due to the lack of supporting data and conflicting statements in the referenced appendices.

The permeability rates (K) and soil distribution information in this report lacks supporting detailed geologic data. This report should include a drawing showing the locations of all geologic explorations on Ryer Island, Prospect Island, Miner Slough, and the ship channel. The report should also include geologic logs of all explorations, pump out test data, piezometer water levels, and surface water level data for Miner slough.

If water level data are of short duration and poor correlations exist between surface water levels in the slough and ground water beneath the islands due to flooding, rainfall, levee seepage, etc., the report should so state. The seepage data for Ryer Island levees requires documentation. USBR staff have seen seepage along levee toes during high water levels in

Miner Slough. This seepage collects in surface ponds on Ryer Island, where the owners are claiming impacts from high groundwater levels.

Response: The intent of the soil data is intended to provide a summary of available exploration data and general description of soil characteristics, not to provide detailed information for seepage analyses. It is our opinion that detailed documentation of geologic explorations is not relevant to the scope of this ERR. See response to Reclamation comment 7, first set of comments.

14. Page 13, Paragraph 5, Sentence 2 - "The ground-water table varies between 1 and 4 feet in depth..." Is this variation due to seasonal changes, tides, or what? Is the variation from one location to another? What is the groundwater gradient below Prospect Island? What locations below the island reflect the shallowest groundwater levels? The deepest? What impact does island flooding have on shallow groundwater? What is/are the primary sources of recharge to groundwater below Prospect Island? Discuss groundwater in the report.

Response: The variation in ground-water table is likely due to variable elevations in the ground surface, tides, and rainfall, and is likely variable from location to location. The text will be clarified. Regional ground water is naturally high. The question on the effect of ground water below Prospect Island appears rhetorical. Once the island is flooded, the ground-water elevation will be at the ground surface, and surface water will be above that. We do not believe that sources of recharge to the ground water require further discussion. See the Todd Associate Report and DWR's Shallow Groundwater Level Trends Report for some description of groundwater characterization.

15. Page 13, Paragraph 5, Last Sentence - The sentence "There is very little peat soil in the project area (Appendix A)" conflicts with discussion and tables in Appendix A.

Response: Last sentence has been revised to read: "Organic soil including peat varies in thickness from 2 feet at the north end of the island to 21 feet at the south end (Appendix F)."

16. Page 48, POTENTIAL ADVERSE EFFECTS - The alternatives should address impacts to shallow groundwater including groundwater quality.

Response: The project would create hundreds of acres of wetlands. An incidental benefit of wetlands is improved surface and ground-water quality. Therefore, we anticipate that the effects on shallow ground water would be beneficial. The text has been changed to reflect the comment.

17. APPENDIX A - GEOTECHNICAL REPORT - Appendix A, although labeled "Geotechnical Report," does not include a detailed geotechnical report, Instead, it includes a report titled "Reconnaissance Report, Proposed Wetlands, Prospect Island" dated May 31, 1994. The Corps should present an evaluation of the soils and geologic data.

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Response: A detailed geologic study has not been conducted to date; therefore, detailed geologic information has not been included. The title to this Appendix has been revised to "Geotechnical Reconnaissance Report." See response to Reclamation comment 7, first set of comments.

18. Page 1, Paragraphs 3 and 4 - The report presents both engineering (paragraph 3) and agricultural (paragraph 4) soils descriptions. What is the relationship between the two descriptions? It is suggested that a map depicting the soils described in paragraph 3 be included. Also needed is a map showing the locations of all geologic explorations and inclusion of the geologic logs.

Response: Comment noted. The agricultural soil descriptions were provided merely to supplement the engineering descriptions and should be interpreted only as such. A location map of explorations in the general area of the project is already included as figure 1.

19. Page 1, Paragraph 3 - The soil types in this paragraph do not coincide with the soil types in the table on page 2.

Permeability rates elsewhere in the report are not correct if the soil types are clay, as shown in summary data on page 2.

Response: The text has been changed to reflect the comment. The last sentence of Appendix F, paragraph 3, now states: "Below this, sand (SM), sandy silt (ML), and clayey sand (SC) are encountered." This geotechnical report provides baseline information for constructibility issues on Prospect Island. Paragraph 3 provides a general description of soil conditions, and the table on page 2 is a tabulation of averages taken from all available information in the files. However, we concur the table should reflect the SP and SW soil types along with the 18- to 30-foot depth range.

20. Page 1, Paragraph 4 - A sentence in this paragraph briefly describes groundwater and coefficient of permeability (K). We suggest that the Corps treat these two technical subjects as topics, rather than insert them in a section titled "Agricultural Soil Types."

Response: This paragraph is merely a general description of surficial soil types and is not intended to be used in a detailed analysis of seepage conditions. Suggestion is made to consider treating ground water and the coefficient of permeability as two technical topics. However, given the intent of this paragraph, no change is believed necessary.

21. Page 1, Paragraph 5 - We strongly suggest that Appendix A include a discussion of geology of the Prospect Island area.

Response: The level of detail describing the geology is considered appropriate for the intent of the ERR. See response to Reclamation comment 7, first set of comments.

22. Page 2, tables of summary data on soils - More data are needed to adequately evaluate soil continuity, distribution, and their interactions with surface and groundwater movements.

Response: The level of detail describing the soil conditions is considered appropriate for the intent of the ERR. See response to Reclamation comment 7, first set of comments.

23. Photographs - Several photographs are attached at the end of Appendix A. There is no discussion of the photos in the Appendix. What is the correlation between Appendix A and the photographs?

Also, the Photograph 2 caption states: "View of high ground water table at the north end of the Island, i.e., depth to water 2-3 feet." Obviously, a groundwater table at a depth of 2 to 3 feet cannot be shown in a photograph taken at the surface.

Response: There is no direct correlation of the photographs with any particular reference in the geotechnical report. The photographs are included to provide the reader with a sense of the general site conditions.

APPENDIX C, ENVIRONMENTAL ASSESSMENT/INITIAL STUDY

24. Page 9, Paragraph 3.2 Geology/Geography - This paragraph is inadequate; an expanded geology section is needed.

Response: This section has been changed to reflect the comment. See response to Reclamation comment 13, first set of comments. We believe that the existing description of geology satisfies the purpose of describing the environmental setting.

25. Page 28, Paragraph 4 - Please see the previous comments regarding soils, geology, soil permeability, and groundwater.

Response: See responses to previous comments.

26. Page 29, Section 4.5.2 Effects - Include a discussion of impacts the proposed channel cuts on the groundwater.

Response: Since there is no hydraulic relationship between Prospect Island and its adjacent neighbors, the channel cuts should not increase potential for seepage as there should not be a connecting sand layer. The project would have no effect on water surface-elevation, therefore, there would likely be little or no effect on the ground-water elevation.

SECOND SET OF COMMENTS

EXECUTIVE SUMMARY

27. ES-1, bottom paragraph says plate 1 shows the tentatively selected plan; however, plate 1 shows alternative 1, which is not the tentatively selected plan. Plate 5 shows Alternative 5, which is the tentatively selected plan.

Response: A plate showing the selected plan will be placed at the end of the Executive Summary. This new plate will be labeled as "Plate ES-1." The reference in the text has been revised to "Plate ES-1."

28. ES-2, first full paragraph, fourth sentence suggests the existence of a breach on the ship channel side. Also, the ship channel breach alone would not allow in-migrating salmon "up through Miner Slough."

Response: The fourth sentence has been deleted.

29. ES-2, first full paragraph also notes that one of the plan's two breaches is "at the upstream end of Miner Slough." In fact, the Miner Slough breach would be at the downstream end of the slough, just above the cross levee (Plate 5).

Response: The word "upstream" has been changed to "downstream."

30. ES-3, second paragraph refers to "proposed Sacramento splittail." Suggest sentence be clarified to reflect that the splittail is proposed to be listed (as described on p. 21). This same clarification could be made in the introductory paragraph on ES-1.

Response: The words "proposed Sacramento splittail" have been changed to "Sacramento splittail" on pages ES-1 and ES-3.

CONTENTS

31. P. iii lists Plates 1-5 but not their location in the report. Plates 1-5 are near the end of the report (after Appendix J) and are followed by five additional drawings; however, these five additional drawings are not listed in the Contents, and their purpose is unclear.

Response: Plates 1-5 have been moved to the end of the main report, that is, just prior to Appendix F. The five additional drawings (C1.0 through C4.0 and L1.0) have been moved to the end of Appendix B. These drawings illustrate the discussion in Appendix B.

CHAPTER 1

32. P. 4, middle of third paragraph, need to clarify what "This report" is.

Response: The word "report" has been changed to "agreement."

33. P. 4, bottom paragraph, last sentence defines measures as "unscreened water diversions; municipal, industrial, agricultural pollution;" etc. These are actually examples of problems, so the intended meaning should be clarified.

Response: The sentence has been revised to read: "These problems could include unscreened water diversions; municipal, industrial, and agricultural . . . . "

34. P. 6, second paragraph says that a small section of the Sacramento River Flood Control Project will be modified. Because the flood control project is so large, it may help the reader to better define how the project will be modified by the proposed work on Prospect.

Response: The first sentence in the second paragraph has been revised to read: "The operation of the Yolo Bypass, a feature of the Sacramento River Flood Control Project (flood control project), will also be modified slightly." The description continues further into the paragraph with: "Prospect Island is a part of the Yolo Bypass, a feature of the flood control project area since the early 1900's."

35. P. 10, last paragraph describes the Central Valley Project. The CVP is a very large project and was not constructed in a single year (1933). Also, the purpose of the CVP as described in the first sentence should be clarified.

Response: The words "in 1933 to use water more fully" have been deleted from the first sentence in the last paragraph.

CHAPTER 2

36. P. 14, last paragraph quotes a memo from the Service and says that this memo resolved the water contractors' concerns." We suggest that this conclusion be specifically documented.

Response: A footnoted reference for the quoted material has been added.

37. P. 15, second paragraph, second sentence refers to "past and/or present use of agricultural chemicals in crop production" on Prospect Island. The island has been flooded since January 1997, so currently there is no crop production on it. The island has not been farmed since March 1995.

Response: The words "and/or present" have been deleted.

38. P. 15, last paragraph, last sentence discusses the design of the Prospect Island so that the island "would flood before surrounding areas and accommodate floodflows." We suggest this statement be documented.

Response: The reference for this statement has been added and is the 1946, 79th Congress, 2nd Session, Sacramento River, California, letter from the Secretary of War.

39. P. 16, first paragraph describes levees and flooding on Prospect Island. Documentation for the second sentence would be helpful. Also, the Miner Slough levee breach on Reclamation property was 300 feet wide; repair of this breach was completed in November 1997.

Response: The fifth sentence has been revised to read: "A breach on Miner Slough on Reclamation property was repaired by the agency in November 1997."

40. P. 16, second paragraph, last sentence says that two landowners access their property along Prospect Island levees. The Hall Island landowner has legal access to his property via boat.

Response: The seventh sentence has been revised to read: "In addition, two landowners have legal access (one by boat and the other by road across Reclamation property) to their property along Prospect Island levees."

41. P. 17, we suggest the title of the section on "Fisheries" and similar references throughout the report be changed to "Fish Resources" to accurately reflect the subject matter.

Response: Comment noted.

42. P. 18, third paragraph says that most of Prospect Island is planted in crops. Although the land acquired by Reclamation was previously farmed, and it likely would be again without the Corps proposed wetlands project, it is not now planted in crops. Further, this land as well as the Port of Sacramento land has been flooded since January 1997.

Response: The third paragraph has been revised to read: "The soil on Prospect Island is rich and fertile. The island is usually farmed with crops including corn, safflower, sugar beets, and wheat. There are also a few interior roads and numerous irrigation ditches, drains, and canals. These are generally . . . . " Also, the word "however" has been inserted after "Currently," in the first sentence of the fourth paragraph.

43. P. 18, fifth paragraph, last sentence refers to "other parcels of land on Prospect Island." The report should clarify what these other parcels are.

Response: The words "parcels of" have been deleted, and the word "have" has been changed to "has."

44. P. 19, figures 3 and 4 show portions of Prospect Island before it was flooded; i.e., not in its current condition. The figure captions should be revised to include the dates the photographs were taken and to clarify that the island is not currently farmed.

Response: The caption on figure 3 has been changed to "Agricultural development on Prospect Island under dry conditions (June 1994)," and the caption on figure 4 has been changed to "Riparian vegetation on the ship channel levee under dry conditions (June 1994).

45. P. 20, figures 5 and 6 show DFG's property near Prospect. The report should clarify the relationship of this property to the proposed project on Prospect Island.

Response: The fifth sentence in the fifth paragraph on page 19 has been revised to read: "This site provides similar types of riparian values as the project."

46. P. 21, third paragraph says that the Service provided a species list on December 4, 1997. This date should be corrected.

Response: The date has been changed to July 11, 1997.

47. P. 21, last paragraph says that Prospect Island is privately owned and used for agriculture. The northern portion of the island was acquired by Reclamation and thus is Federally owned; neither the Federal land nor the Port land is currently used for agriculture.

Response: The first sentence has been revised to read: "Since Prospect Island is Federally or privately owned and normally used for agriculture, there . . . ."

CHAPTER 3

48. P. 24, second paragraph compares acreage of pre-settlement riparian habitat in the Central Valley to a percentage reduction in the San Joaquin Valley. This comparison between the Central and San Joaquin Valleys is confusing because one valley includes the other. Also, the relevance of the San Joaquin Valley figure is unclear.

Response: The second sentence has been replaced with "However, urbanization, land reclamation, and water resources development in the valley have reduced this historic acreage dramatically."

49. P. 24, third paragraph refers to Resource Category 1. Because some readers may not be familiar with this term, the report should explain it.

Response: The first sentence has been revised to read: In accordance with their Mitigation Policy, the Service has . . . ."

50. P. 28, third paragraph says that Reclamation has no plans to restore habitat on Prospect Island and that the site would continue to hold its current habitat values. The footnote citation is old (and unnecessary, considering events since 1995). Also, because Prospect Island is flooded, "current habitat values" would be wetland values. This paragraph should be revised to clearly distinguish between current conditions and anticipated future conditions without the project.

Response: The footnoted citation has been deleted. The third sentence has been revised to read: "The site would continue to hold its habitat values (under dry conditions)."

CHAPTER 4

51. P. 30, second full paragraph, last sentence refers to "transposing" data from Rio Vista tidal gage to the Prospect Island site. This term should be clarified.

Response: The term "transposing" has been changed to "using."

52. P. 30, last paragraph, next to last sentence says that the excavated channel would connect two levee breaches. It does not appear from Plate 5 that this would be the case.

Response: The two levee breaches would be connected. The plate has been changed to reflect the comment.

53. P. 33, third full paragraph refers to other landowners' property on Prospect Island and the need to stabilize the island levee along Miner Slough. The report should clarify who these other landowners are and identify the "Egbert Cut" levees.

Response: The first sentence has been revised to read: "Little Holland Tract, Ryer Island, and non-project land on Prospect Island should be protected." The words "Egbert Cut" have been replaced with "north."

54. P. 34, third paragraph says the "study area" would continue to be in Reclamation's ownership. Reclamation acquired the northern portion of the island; however, the Port of Sacramento owns the southern portion of the island.

Response: The words "study area" have been changed to "1,228-acre area."

55. P. 35, Alternative 1, second bullet refers to "both cross levees." The report should clearly explain these two levees.

Response: The third and fifth sentences under "STUDY AREA" on page 1 have been revised to read: "The island is surrounded by levees on all sides, including an east-west cross levee separating Prospect Island and a remnant of Little Holland Tract." and "A 309-acre southern portion is owned by the Port, and an east-west cross levee separates Reclamation's property from the Port's property."

56. P. 36, Alternative 2, fifth bullet refers to "breaches" along the ship channel levee. Plate 2 shows only one breach along this levee.

Response: The word "breaches" has been changed to "breach."

57. P. 36, Alternative 2, next to last bullet cites the Port's property as a source of fill. Has the Port committed to making its fill available for the proposed project?

Response: Since this alternative is not the selected plan, such a commitment from the Port is not necessary at this time.

58. P. 36, Alternative 3, first paragraph says that the flow-through channel would be created by excavating the west bank of the ship channel. Is this description intended to be what is otherwise referred to as the breach in the ship channel levee? Also, the west bank of the ship channel is on the opposite side of the ship channel from Prospect Island.

Response: The word "west" has been changed to "east." Excavating the east bank would create a breach in the ship channel levee.

59. P. 37, second paragraph, first sentence says the breach on the ship channel "allows." To our knowledge, there is no existing breach on the ship channel.

Response: The word "allows" has been changed to "would allow."

60. P. 37, second paragraph, second sentence refers to a 1-year establishment period. The non-Federal sponsor recently requested a longer establishment period.

Response: The "1-year establishment period" has been changed to "3-year establishment period."

61. P. 37, first bullet says the breaches would be sized so that they would not require rock revetment. This statement appears to be somewhat inconsistent with the previous paragraph, which says the ship channel breach would be "armored during the 1-year establishment period."

Response: The second phrase in the first bullet has been revised to read: "Size the breaches so that they do not require rock revetment (after the 3-year establishment period)."

62. P. 37, Islands, second bullet says fill material is available on the Port property. Has the Port committed to make this material available for the project?

Response: Since this alternative is not the selected plan, such a commitment from the Port is not necessary at this time.

63. P. 37, last bullet refers to a side channel and dead-end slough. These features do not appear to be shown on Plate 3.

Response: Comment noted.

64. P. 41, figure 10 is labeled as "Barrier Island Section." This term is not used in the text, so its use in the figure is somewhat confusing.

Response: The eighth sentence in the first paragraph on page 42 has been modified to read: "Barrier islands in the deeper . . . (figure 10)."

65. P. 42, first paragraph, sentence that refers to figure 9 cites a 10-foot-wide bench, but the figure shows a 20-foot beach.

Response: The 10-foot-wide bench has been changed to a 20-foot-wide bench.

66. P. 42, first paragraph, sentence that begins on line 9 refers to "a peninsula" and "peninsulas." These should be identified on Plate 4.

Response: The sentence has been modified to read: ". . . use of islands and the peninsula could be monitored in the future." The small peninsula along the north levee has been identified on Plate 5.

67. P. 43, second bullet refers to "breaches" along the ship channel levee. Plate 4 shows only one breach on this levee.

Response: The word "breaches" has been changed to "breach."

68. P. 43, Channels, first bullet refers to a "3-foot-deep side channel." This side channel does not appear to be identified on Plate 4.

Response: The words "3-foot-deep side channel" have been deleted from bullet.

69. P. 43, Alternative 5, says Alternative 5 is "very similar" to Alternative 4 except for the Miner Slough breach location. What is the dashed double line on Plate 5? Does the large excavated channel become a dead-end slough at the north end (at the Miner Slough levee)? What about the other small channels? (In Alternative 4 also.) Where is the side channel? All features of this alternative should be clearly identified on the plate.

Response: The dashed double lines on Plate 5 have been changed to solid lines and identify part of the central channel. The main channel does not become a dead-end slough at the north end. The small channels become dead-end sloughs. All features of this alternative have been identified on Plate 5.

70. P. 44, third paragraph refers to the proposed channel "through the center of the site for Alternative 5 connecting the two breaches." This description is not consistent with the features as shown on Plate 5.

Response: The dashed double lines on Plate 5 have been changed to solid lines and identify part of the central channel. This channel connects the two breaches in Alternative 5.

71. P. 45, table 4 lists for Alternative 3 a first cost per AAHU of $8,561. However, this cost does not appear to be correct based upon the AAHU, net gain of 821.6 from Table 5.

Response: A revised figure of $8,608 has been inserted into the ERR.

72. P. 46, paragraph at bottom of page says the Service plans to operate and manage Prospect Island as a national wildlife refuge on behalf of DWR. As we understand it, Prospect Island is intended to be part of a new national wildlife refuge (that would also include Little Holland Tract and Liberty Island). Upon completion of the project, Reclamation would transfer to the Service the management responsibility for the land Reclamation previously acquired.

Response: The paragraph has been revised to read: "As non-Federal sponsor, DWR would be required to assume all operation and management responsibilities for the completed Prospect Island project. However, Prospect Island is intended to be included in a new national wildlife refuge that would also include Little Holland Tract and Liberty Island. After the project is completed, the Bureau would transfer ownership of the land to the Service, who plans to operate and manage the project (as part of the refuge) on behalf of DWR."

73. P. 47, first paragraph discusses annual administrative costs of $40,000 and annual O&M costs for Alternative 5 of $70,000. It is not clear whether the $40,000 is separate from or part of the $70,000.

Response: The $40,000 is included in the $70,000. The text has been changed to reflect the comment.

74. P. 47, second paragraph says that inclusion of the privately owned parcel (Stringer property) in the project would eliminate the need to maintain the levee access road. However, as discussed at recent team meetings, acquisition of the Stringer property is not being pursued as part of this project.

Response: In 1998, the project sponsors and team meeting members reconsidered the benefits to making an offer to acquire the 9-acre private parcel. Because acquisition of the parcel would reduce long-term project O&M costs, the sponsors and team members decided to pursue acquisition of the parcel. This section has been revised accordingly.

75. P. 47, fourth paragraph discusses possible recreation opportunities. The Service should be consulted about the potential for recreation, including any canoeing, kayaking, and fishing opportunities.

Response: The Service is currently initiating their planning process for the North Delta Wildlife Refuge, as discussed with DWR staff at the November 17, 1997, meeting. Since the planning process is just beginning and no public involvement activities have been initiated, the Service does not know "exactly" what "will and will not be allowed (in terms of recreation) when Prospect Island is managed as part of the North Delta Wildlife Refuge." The Corps defers these management decisions to the Service, the post-construction managers of Prospect Island.

76. P. 47, last paragraph says that the study area is currently farmed and that removing this land from agricultural production would eliminate the use of agricultural chemicals on the site. The island is not currently farmed.

Response: The words "currently being" have been changed to "usually" in the second sentence.

77. P. 48, second paragraph, next to last sentence says that the average annual cost per habitat unit for Alternative 3 is $3,758 more than for Alternative 5. Based upon the information in Table 4, this difference is much less, only $292.

Response: This sentence has been revised to indicate that the first cost per AAHU for Alternative 3 is $3,608 more than for Alternative 5.

78. P. 48, third paragraph refers to "more significant potential adverse effects." If the project is expected to result in significant effects, then an EIS will be required.

Response: The last sentence has been revised to read: "Some of these effects are summarized below." The project is not expected to result in any significant adverse environmental effects.

79. P. 48, fourth paragraph, second and third sentences refer to additional detail in the EA/IS (Appendix C) and an impact of reducing the amount of freshwater outflow and increasing saltwater outflow; however, we did not find a discussion of this impact in the EA/IS.

Response: The second sentence in the paragraph has been deleted.

80. P. 50, second full paragraph, last two sentences discuss potential impacts on water supply and note that the Service's 1994 biological opinion requirements "will be reviewed" and "Therefore, pumping would not be adversely affected by this project." It is unclear how a review of the requirements of the opinion could ensure no restrictions or adverse effects on pumping. Also, is this the same biological opinion (March 6, 1995) referred to on p. 14?

Response: The text has been changed to reflect the comment. It is the same biological opinion.

81. P. 50, fourth full paragraph discusses levee erosion. Results of sonar studies conducted by Reclamation in connection with the Prospect Island levee repairs along Miner Slough showed no erosion damage to the Ryer Island levee, even 6 months after the Prospect Island levee break.

Response: Comment noted. The text has been changed to reflect the comment.

82. P. 50, last paragraph discusses seepage. Except for the reference in the first sentence to Ryer Island farmers, this is the only recognition in the main report of the two lawsuits filed by Ryer Island landowners against Reclamation for damages they claim resulted from flooding of Prospect Island. The discussion of any potential seepage must be carefully considered and should be coordinated between the appropriate technical staffs at the Corps and at Reclamation.

Response: Concur. The Corps and Reclamation have met and discussed the issue on several occasions.

CHAPTER 5

83. P. 53, second paragraph says no significant adverse effects have been determined for the plan. However, statements on pages 48 and 50 suggest there may be some significant adverse effects.

Response: The second paragraph has been revised to read: "The selected plan provides many environmental benefits, and no significant adverse environmental effects have been identified for the plan. No mitigation has been recommended either by the Corps or regulatory agencies, such as the Service." No significant effects are identified on pages 48 or 50.

84. P. 53, third paragraph, next to last sentence suggests that plans and specifications have been completed. It is our understanding that plans and specifications are to be undertaken following approval of the PMR.

Response: The words "plans and specifications" have been changed to "designs."

85. P. 53, fourth paragraph says "... it is recommended that DWR or another agency pursue construction of the northern breach." Responsibilities related to potential later construction of a northern breach should be fully addressed in the PMR and coordinated with all potentially affected agencies and other interests.

Response: The sentence has been deleted. Future construction of a northern breach is not a feature of the project.

86. P. 53, last paragraph discusses non-Federal responsibilities for monitoring. The report should clarify agency responsibilities and duration of the establishment period and how these may differ from the monitoring responsibilities.

Response: See responses to DWR comment 1, Chapter 1, comment 5, Chapter 4, and comment 1, Appendix C.

87. P. 55, second paragraph concludes that the proposed project will have "no adverse effect on existing flood control projects." This statement does not appear to be fully supported by the discussion of seepage on pages 50-51.

Response: Modeling efforts to date do not indicate any adverse effects to flood control. The flood control project is unaffected by the proposed selected plan. See response to Reclamation comment 7, first set of comments.

88. P. 55, third paragraph briefly discusses planned levee repairs by Reclamation and the Port. We have completed our repair of the Prospect Island (Miner Slough) levee breach on Reclamation land (November 1997). To our knowledge, the Port has not committed to permanently repair its breaches along Miner Slough, and certainly not in 1997.

Response: The second sentence has been revised to read: "Reclamation completed permanent repairs to the Miner Slough Breach in November 1997." In addition, the "1997" in the third sentence has been changed to "1998." The suggestion that the Port has committed to fixing the breach has been taken out of the report.

89. P. 56, last paragraph, third sentence discusses soil explorations planned by the Corps. Reclamation questions the value of this proposed work. (See attached set of comments.)

Response: Concur. There is no indication that this work is necessary, nor would the results of these explorations be conclusive. Reclamation's comment 7, first set of comments, seems to conflict with this comment.

CHAPTER 7

90. P. 59, third paragraph, second sentence should be revised to make clear that Prospect Island is bordered on the east by Miner Slough, that the Prospect Island levee along the slough is not a "project" flood control levee, but that the Ryer Island levee along the slough is.

Response: The second sentence has been revised to read: "Prospect Island is bordered on the west by the ship channel and on the east by Miner Slough. (The east levee of the slough is a flood control project levee.)"

91. P. 60, second paragraph, last sentence says that Reclamation would construct temporary repairs to the Miner Slough breach prior to project construction. As noted above, these levee repairs have been completed.

Response: The last sentence was taken out and revised to state that the cross levee breach was repaired in January of 1999.

92. P. 60, third paragraph says that DWR, the non-Federal sponsor, would provide the real estate requirements needed to implement the project. It should be noted that the Federal Government (through Reclamation) holds title to the northern portion of the island, which is the land the Corps proposes to restore for environmental purposes. The land will be sold or transferred to the State. Upon completion of the Corps project, Reclamation would transfer management responsibility for the land to the Fish and Wildlife Service.

Response: The third paragraph has been revised to read: "DWR, the non-Federal sponsor, . . . would provide the real estate (except the land to be provided by Reclamation), and any relocation, and disposal requirements . . . ."

Plates:

93. Plates 1-5, near the end of the report, depict the five "study alternatives." All text descriptions of these alternatives, references to the plates, and the plates themselves should be carefully reviewed to correct inconsistencies or errors. The plates should be carefully reviewed to ensure that all features are shown and adequately labeled. Also, plate 5 should indicate that Study Alterative 5 is the proposed plan.

Response: Comment noted. Plate 5 has been revised to reflect the comment.

94. The five drawings at the end of the report are not labeled as plates, and we did not find references to them in the main report. These drawings should be clearly labeled.

Response: The five drawings were referenced in Appendix B, not in the ERR. The drawings have been moved to the end of Appendix B.

APPENDIX C. ENVIRONMENTAL ASSESSMENT/INITIAL STUDY

95. General: The term "fisheries" is used numerous times throughout the document. We suggest the term be changed to "fish resources" to accurately reflect the subject matter.

Response: Comment noted.

96. P. 6, section 2.1.4, last sentence is unclear. To which alternative(s) does the statement "less material would be moved and..." refer?

Response: The words "and alternative 5" have been deleted from the last sentence.

97. P. 15, section 4.1.1, should be clarified to indicate that the project site flooded in January 1997 (instead of winter 1997), that repair of the Miner Slough levee breach has been completed, and that repair of the cross levee and dewatering of the island are expected to be completed before the summer of 1999.

Response: The first paragraph in section 4.4.1 has been revised per the comment.

98. P. 20, section 4.2.2, second paragraph reference to "cultural agricultural land" is unclear.

Response: The word "cultural" has been deleted from the sentence.

99. P. 24, section 4.3.1, second from last sentence, description of confluence of the Stanislaus and San Joaquin Rivers on the "southwest" corner should be changed to "southeast" corner.

Response: The word has been changed per the comment.

100. P. 35, section 4.7.1, reference in first paragraph to "electro conductivity" should be changed to electrical" conductivity; reference in third paragraph to "chlorpyifos" should be changed to "chloropyriphos."

Response: The word "electro" has been changed per the comment. The third paragraph has been deleted from the EA/IS (see response to DWR comment 3 under Environmental Assessment/Initial Study - Appendix K).

APPENDIX I. REAL ESTATE REPORT

101. This appendix does not appear to note that approximately 80 acres of the northern portion of Prospect Island is owned by the Port of Sacramento. This land comprises a strip about 150 feet wide that extends north-south along the west side of the island adjacent to the ship channel levee. This land would be affected by the Prospect Island project proposed by the Corps.

Response: The Corps is aware of the real estate interest (easement) presently held by the Sacramento/Yolo County Port District in property along the west bank of Prospect Island. The interest was acquired by the Port as an item of local cooperation for the Sacramento Deep Water Ship Channel Project. The cost to extinguish the Port's interest so that the west side levee may be breached was accounted for in the Real Estate Plan and the MCACES cost estimate.

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RESPONSES TO CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE COMMENTS

1. The significance of redirection of this large area of prime and unique agricultural land and its attendant water rights and use needs to be evaluated not only on the merits of this individual project (which appears to be very significant), but also in the larger context of the cumulative effects of other projects proposed and reasonably anticipated by the Lead Agency and others which potentially impact agriculture and agricultural water use.

Response: In evaluating cumulative effects, the Corps and DWR first evaluated whether the project would have any significant effect on the environment due to the conversion of agricultural lands to habitat for fish and wildlife. This analysis is found in Section 4 of the draft EA/IS and in the ERR, which is incorporated by reference into the EA/IS. The analysis determined that effects on resources, including land, air, water, wildlife and humans, would be insignificant. The potential for cumulative effects of any insignificant effects from the Prospect Island Project, including effects to agriculture and agricultural water use, were also considered, in light of other projects in the Delta, such as the Stone Lakes National Wildlife Refuge, the proposed North Delta Wildlife Refuge, and the proposed CALFED Bay-Delta Program. It was determined that the Prospect Island Project would not cause cumulatively considerable effects to other resources, such as agricultural lands and water use, because Prospect Island periodically floods and the use of wetland vegetation is not expected to increase water use over existing use. The bases for these conclusions are discussed below.

Although Prospect Island had been in agriculture until 1995, we believe that the location and historical use of Prospect Island for flood management eliminates the potential that the conversion of this agricultural land to fishery and wildlife habitat will rise to more than a minor, or *de minimis*, effect to the environment, including agriculture. Prospect Island was originally designed to be a flood management facility of the Sacramento River Flood Control System and it is within the Yolo Bypass, and subject to flowage easements. Its levees were built to overtop during flood events, and consequently they are lower than neighboring project levees. Recent flooding on Prospect Island occurred in 1980, 1982, 1983, 1986, 1995, and 1997 (Sacramento San Joaquin Delta Atlas, p. 49 (DWR 1993), and communication with Will Keck of the U.S. Bureau of Reclamation).

Repair of levee breaches and pumping water off the island after major floods are very costly endeavors. In addition, when Prospect Island floods, ditches, culverts and other infrastructure of the farming operations need to be repaired. Between 1980 and 1991, the local Reclamation District 1667 and the federal and state governments spent $775,321 to repair levees on the Island to enable farming to continue (Sacramento San Joaquin Delta Atlas, pp. 81-83 (DWR 1993)). After the USBR acquired Prospect Island in 1995, flood water broke the levees in March 1995 and again in January 1997.

We compared the expected profitability of Prospect Island during the 1995 agricultural year as compared to USBR expenses to make repairs after the flooding. In 1995, the Prospect Island tenant farmer claimed that agricultural production netted a profit of $300,000, while in 1996, the USBR spent nearly $600,000 on pump-out costs, dike repair, excavation and ditch cleaning (data from 1996-97 Reclamation property maintenance and lawsuit claim for lost agricultural profit from the agricultural lessee, obtained from USBR at December 16, 1997 Prospect Island Team meeting).

In addition to the costs described above, the Category III Grant Program of CALFED provided $2,000,000 in 1998 to fund needed levee repairs and pumping costs to remove water from Prospect Island. In summary, since 1980, repair costs to maintain Prospect Island in a dry condition has totaled approximately $3,375,300.

Despite good agricultural soils and available water, the propensity of the Island to flood limits the economic viability of practicing agriculture. This may be one reason why, in 1995, the owner of these agricultural lands willingly sold the lands to the Trust for Public Lands for the proposed Prospect Island Habitat Restoration Project. The periodic flooding and subsequent repair of the levees and infrastructure limit the profitability of farming on Prospect Island and reduces the island's use as significant agricultural land. There are about 641,000 acres of rich farmland in the Delta (Chapter 7 of the CALFED Draft Programmatic EIS/EIR (June 1999)). Prospect Island Project will convert about 1300 acres of farmland to a compatible use as wildlife habitat. As evidenced by the need to obtain CALFED funding for levee repairs, even without the Prospect Island Project, future agricultural productivity on the Island would not have been possible without expending millions of dollars. Therefore, because of the offsetting costs to maintain the levees on the island, the specific loss of agriculture land on Prospect Island would have a *de minimis* effect on agriculture in the Delta and would not contribute to cumulative impacts of other proposed projects.

Furthermore, the Prospect Island Project will convert agricultural land to a less intensive use that will be compatible with agriculture. The managed wetland will prevent urban development of Prospect Island, provide open space, create a buffer area against urbanization, and unlike urbanization does not preclude reconversion of the land back to agriculture should conditions warrant it. The development of habitat on Prospect Island should not result in any environmental restrictions to neighboring farmers The project is expected to provide habitat that may be beneficial to the increase of the delta smelt population. In the long run benefits such as these could contribute to the recovery of the species, which would result in fewer environmental restrictions to neighboring farmers.

CDFA seems also to be concerned that the proposed change in land use from agriculture to wetland habitat would result in an increase in the consumption of water on Prospect Island. We do not believe there is any evidence that indicates the Prospect Island

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Project would have a significant effect on water supply. DWR Central District staff and Planning (Delta modelers) were consulted to determine if the Prospect Island Project would use more water than agriculture on the same plot of land. They believe that good data are not available for wetland water use in the Delta. DWR Central District staff cited a 1942 Division of Water Resources report (Use of Water By Native Vegetation) that gave high estimates of water use for wetland plants. However, there were a number of problems with the report. For example, the data were obtained by studying plants in metal tanks which are subject to higher temperatures and therefore more evaporation than plants in nature. A more recent DWR/DFG report, the Sherman Island Wildlife Management Plan (published October 26, 1988) showed no significant difference between wetland (60% vegetated, 40% open water) and agricultural water use. Based on the above report, the amount of water used by Prospect Island habitat is expected to have a minor effect on the amount of water available for export from the Delta or to farmers within the Delta. Therefore, we conclude that there is no evidence that indicates the Prospect Island Project will have a significant effect on water supply nor will it add to any cumulative impact of such resources.

As mentioned above, other projects in the Delta, such as the Stone Lakes Refuge, the North Delta Refuge, and the proposed CALFED Bay Delta Program, were identified as potentially affecting agriculture and agricultural water use. USFWS published the "Stone Lakes National Wildlife Refuge Final Environmental Impact Statement" (May 1992) that describes the potential effects of the Refuge. The USFWS is proposing the North Delta National Wildlife Refuge, located in the northern Sacramento-San-Joaquin Delta. The refuge might encompass all or some of Prospect Island, Liberty Island, and Little Holland Tract. In 1998 and 1999, USFWS held public open houses to explain the proposed project to interested parties and to hear any comments and concerns. DWR staff attended two of the meetings and obtained background information on the proposed project. USFWS will use comments from the meetings to help prepare a draft Environmental Assessment, scheduled to be available in August 1999.

On June 25, 1999, CALFED released to the public its Draft Programmatic EIS/EIR (June 1999), which evaluates Bay-Delta resources categories, their relationships, and a proposed Preferred Program Alternative to solve the Bay-Delta problems. Chapter 3 of the Draft Programmatic EIS/EIR states that "[the cumulative beneficial effect of all actions under the Preferred Program Alternative, including the Water Quality Program, Water Use Efficiency Program, Water Transfer Program, conveyance improvements, and potential new water storage facilities, is expected to significantly outweigh this potential loss of water supply, resulting in no potentially significant adverse impacts." The Draft EIS/EIR also identifies that the Program could cause a significant loss of agricultural lands. (See Chapter 7, Draft Programmatic EIS/EIR.). The cumulative effect of Prospect Island Project together with these other projects, however, is not cumulatively considerable because of the de minimis effects of the Prospect Island Project to agriculture, as discussed above.

2. In their comment letter, the CDFA requested a meeting with DWR to discuss issues relating to redirection of Prospect Island and its attendant water rights and use. The Prospect Island Interagency Team, which includes DWR, met with Robyn Reynolds of CDFA on December 16, 1997. The following items were raised by CDFA for discussion:

a. Whether the Prospect Island Project is a separate action under CEQA or part of the Statewide CALFED Bay-Delta Program which is proposing wildlife habitat restoration actions in the Delta.
b. Conversion of over 1,000 acres of prime and unique farmland to wildlife habitat.
c. Significance of conversion of agricultural land.
d. Loss of associated water rights.
e. Potential for increased operation and maintenance costs.
f. Whether the Federal land evaluation checklist included in the environmental documentation for the project is appropriate for the State.
g. Potential of significant adverse effects on adjoining agricultural lands.
h. Potential for increased flood hazard.

Response: The following is a summary of responses to these items. See response to comment 1 above for additional information.

a. In the 1980's, the Corps first proposed the Prospect Island Habitat Restoration Project under authority of Section 1135 of the Federal Water Resources Development Act. The Prospect Island Project is a stand-alone Federal/State project independent of the CALFED Bay-Delta Program, which began in 1995. The Prospect Island Project, initiated prior to the CALFED program, is intended to be completed regardless of the fate of CALFED. We believe that the project as described in the EA/is the entire action as defined by CEQA. Thus, the EA/IS and the proposed Negative Declaration were prepared assuming the project is an independent action.

Despite the independent development of the Prospect Island Project, we recognize that the CALFED program includes Delta fish and wildlife habitat restoration as a main element and has potential to convert agricultural land to nonagricultural uses, similar to the Prospect Island Project. For a discussion of the potential for cumulative impacts of the proposed projects, please see the response to comment 1 above.

b. and c. Please see response to comment 1 above, which describes that the location and historical use of Prospect Island for flood management eliminates the potential that the conversion of this agricultural land to fishery and wildlife habitat will significantly affect agricultural lands or productivity.

d. Please see response to comment 1 above, which discusses riparian water rights and reviews studies of wetland water use compared to crop use.

e. Please see response to comment 1 above, which compares recent costs to rehabilitate Prospect Island levees and net profit from crop production.

f. The Federal land evaluation checklist, which is an advisory document, is included in the EA/IS and was completed by the Corps according to 1995 regulations. The Corps reviewed the checklist according to updated 1997 code. The State can consider the Federal evaluation in its assessment of potential impacts to the environment, as part of the traditional analysis of the impact of the project on agricultural land. The State also, under CEQA, has the option to evaluate the importance of agricultural land with the newly developed Land Evaluation and Site Assessment. After reviewing the Land Evaluation and Site Assessment, the State regarded the LESA as not appropriate for a restoration project. Unlike urban development projects for which the LESA was developed, the wetland status of the Prospect Island restoration project will prevent urban encroachment and will be compatible with adjacent agriculture. In addition, the LESA did not take into account the tendency of Prospect Island to flood which may make agriculture on Prospect Island not economically feasible.

g. With respect to any third party effects, the specifications for construction include many provisions to prevent third party effects. The levee will be reinforced with more material in order to decrease the slope of the levee to a more stable level. Monitoring wells on Prospect and Ryer Island have been monitored for 2 years and have not shown a hydraulic linkage between the islands. These wells will continue to be monitored. Increased monitoring was performed during the de-watering phase of Prospect Island from October thru November of 1998. Indexed in Appendix J is the well data monitoring report analyzing the results of this increased monitoring program.

h. The Prospect Island Project is not expected to increase the flood risk of neighboring islands. Standing water on Prospect Island will only average 4 feet in depth, and islands will be built to decrease wind fetch and wave action on the levees. The Prospect Island side of the Miner Slough levee will be planted with riparian vegetation in order to maintain that levee as protection for the Ryer Island project levee.

In conclusion, DWR recognizes the concerns raised by CDFA with respect to the potential for the Prospect Island Project to affect agricultural land. For the above reasons, DWR does not regard the project as having significant environmental effects on agricultural lands and concludes that a finding of no significant impacts and a Negative Declaration for the project are appropriate.

RESPONSES TO DEPARTMENT OF WATER RESOURCES COMMENTS

The letter from DWR summarizes the agency's concerns and recommendations and refers to the detailed comments in enclosure 1. The Corps responses to enclosure 1 also apply to the concerns and recommendations in the letter.

EXECUTIVE SUMMARY

1. On page ES-2 it states that there will be a "side channel and dead-end slough." This statement needs to be corrected to state that there will be THREE side channels with branching dead-end sloughs.

Response: The text has been changed to reflect the comment.

2. On page ES-2 it describes the plan's two breaches as "one at the upstream end on Miner Slough and the other at the downstream end of the ship channel." This is incorrect. The Miner Slough breach is planned to be DOWNSTREAM, not upstream.

Response: The text has been changed to reflect the comment.

3. On page ES-2 is states, "fisheries, endangered species and vegetation were expected to benefit from the project." The statement should read - "Overall, fisheries, waterfowl, shorebirds, vegetation, and various threatened and endangered species are expected to benefit from the project."

Response: The text has been changed to reflect the comment.

CHAPTER 1

1. On page 5 it states that "The non-Federal share of this project, the monitoring, and the operation and maintenance are funded by Category Ill." This statement should be corrected to state that "DWR, as the non-Federal sponsor, will fund its share of the project, including long-term operation and maintenance, through a grant from Category Ill."

"DWR also has prepared a separate but related monitoring proposal for Prospect Island and is requesting Category III funds for three years of monitoring. DWR proposes to convene a Prospect Island Interagency Ecological Program Project Work Team to conduct this monitoring, which will include monitoring of fishery and wildlife resources, water quality including disinfection byproduct precursors, vegetation, zooplankton, phytoplankton, benthos

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and bathymetry. This team will ensure coordination between the different monitoring elements of DWR's proposed monitoring plan and Project post-implementation monitoring."

Response: The text has been changed to reflect the comment.

2. On page 9 it is stated that 90 to 100 ships per year pass through the channel at 9 to 10 knots. Rapid drawdown and return surge caused by these ships has not been addressed. The potential for material to be carried into the Sacramento Deep Water Ship Channel and which agency has responsibilities for the possible removal of this material should be defined. The PMR should clarify that the Corps dredges the ship channel and will continue to have full responsibility for this dredging even if the Project causes some increase in deposition of sediment in the channel.

Response: The text has been changed to reflect the comment. Potential shoaling of the ship channel and responsibility for dredging are fully discussed in chapter 4 of the ERR. The text on page 9 is intended to identify and briefly describe the existing water resources projects in the area.

CHAPTER 2

1. On page 16 it says that Prospect Island flooded when the levees breached in six places. This statement should be corrected to state that the levee breached in three places and overtopped in various other spots.

Response: The text has been changed to reflect the comment.

2. On page 16 it says that two private property owners access their land via Prospect Island levee roads. It should be clarified in this section that only one of the private property owners has legal authority to use Prospect Island roads. The other private property owner does not have legal access.

Response: The text has been changed to reflect the comment.

3. On page 17 it refers to the power lines that run across the island, but it does not say what will be done with the power lines during construction. DFG/USFWS should be contacted to determine whether leaving the power lines and poles in place has certain advantages to birds.

Response: The Service and DFG have both been contacted regarding the power poles and lines on Prospect Island. DFG "would prefer that the telephone poles be removed." Likewise, the Service biologist for Prospect Island also strongly preferred that the poles be removed. USFWS

also prefers that the poles be removed prior to construction. The Corps has met with PG&E and discussed how Prospect Island no longer needs power from PG&E.

4. On page 18 it says, "Five breaches along Miner Slough opened during January 1997, four on the Port's property and one on Reclamation's property." This statement should be corrected to read that "Three breaches occurred in total. One breach occurred on the Miner Slough levee on Bureau property, a second breach occurred on the Miner Slough levee on Port property, and a third breach occurred on the cross levee separating the Port property from the Bureau property."

Response: The text has been changed to reflect the comment.

5. On page 21 it states, "Since Prospect Island is privately owned and used for agriculture, there is very little recreational use of the island." It is incorrect that Prospect Island is privately owned; Prospect Island is currently owned by USBR.

Response: The text has been changed to reflect the comment.

CHAPTER 3

1. On page 25 it says, "Delta smelt have declined roughly 10-fold in the past 10 years (from several million to several hundred thousand)." This is an incorrect statement. The population of delta smelt has not and cannot be accurately estimated. Please refer to IEP Newsletter (Spring 1996) article titled, "Why we don't do population estimates for delta smelt" by Bruce Herbold of the EPA.

Response: The text related to declining numbers of delta smelt has been deleted.

2. On page 25, under "Fisheries", the reference to California splittail should be changed to Sacramento splittail.

Response: The text has been changed to reflect the comment.

3. On page 27 under "SRA Habitat", the statement that SRA habitat would benefit "chinook salmon and other wildlife" should be changed to say that SRA habitat would benefit fish and wildlife.

Response: The text has been changed to reflect the comment.

4. On page 27 and 28, both the statements, "The narrow width of the channel and large size of passing ships in the channel cause substantial bank erosion and necessitate the placement of larger and more expensive rock on the levee. The Corps has started to place larger rocks

because some of the older rock sites have failed." and "Since completion of the ship channel in 1963, erosion of the channel has necessitated relatively frequent and extensive rock bank protection to maintain levee integrity.", indicate that extensive maintenance of the ship channel levee has been required. The Corps should discuss the planned non-maintenance of the ship channel levee, what they anticipate will happen to sediment and levee material in the absence of maintenance, and what contingencies exist if there is extensive shoaling.

The Corps should describe the existing maintenance program for the ship channel. Chapter One pages 8-10 of the PMR, "Existing Water Resources Projects," indicates the Corps constructed the Deep Water Ship Channel under federal authorization. Does federal law authorize the Corps to conduct maintenance dredging of the channel? If so, the Corps should modify the PMR to indicate that the Corps will continue to be responsible for maintenance dredging including any changes in dredging due to the Prospect restoration project (carried out because of the Corps' original ship channel construction) and this dredging is consistent with existing authority.

Response: The text has been changed to reflect the comment. As part of the description of the selected plan, the ERR discusses the planned non-maintenance of the ship channel levee, possible effects on the ship channel, and remedies to any effects on pages in chapter 4. Also in chapter 4, a statement has been added that maintenance dredging would continue to be the responsibility of the Corps.

5. Although model results show a low potential for shoaling, hydraulic model studies could be used to verify that the risk might indeed be small by actually doing the analysis. This analysis should indicate that any increase in shoaling is acceptable under the Corps' original project authorization and purpose for the Deep Water Ship Channel construction and operation.

Response: Comment noted. The Corps believes that a minimal amount of shoaling resulting from the Prospect Island restoration would be acceptable under the original authorization and purpose and that no additional modeling is necessary.

CHAPTER 4

1. On page 30 it says, "the excavation would take the form of a channel through Prospect Island, connecting two levee breaches. Dredged material from concurrent maintenance of the ship channel could also be used." Both sentences need correction. The tentatively selected project plan (also referred herein as the preferred alternative), alternative number 5, has two southern breaches resulting in a dendritic system, rather than a flow through type system. The ship channel dredged material has not been identified as a source of soil for creating islands under alternative 5. The Corps should modify the PMR to describe the ship channel maintenance dredging program if it intends to use this material for the selected plan.

Response: Alternatives 2, 3, and 4 and the selected plan all incorporate an excavated channel. In each alternative, the breaches are connected by the channel to facilitate water movement through the site and to discourage predator detention in the site. Alternative 2 requires off-site fill material. The quoted sentences in your comment describe the habitat restoration components that were to be incorporated into every alternative, not just the selected plan.

2. On page 32 it says, "the project has been designed to prevent fish stranding." There should be a follow-up statement explaining what design measures exactly were incorporated to prevent fish stranding.

Response: Maximal tidal exchange was created, "eliminating dead water" zones where "water quality may deteriorate and/or predators may accumulate," as was recommended by the Service's Planning Aid Report for Prospect Island, dated February 22, 1995. Furthermore, the site is sloped towards the levee breaches to ensure drainage. The slope is consistent, and there would be no potholes that would retain water and strand fish. As the tide shifts from high to low levels, fish would be gradually carried towards the breaches and out of the island.

3. On page 33, the first paragraph discusses the success of natural colonization at the Cache Slough site. It is unclear whether this applies to Prospect Island. This paragraph should be clarified with respect to applicability to Prospect Island. Also, if possible, a reference for the Cache Slough success should be cited.

Response: The text has been changed to reflect the comment. The reference for the Cache Slough success is Stevens, M. and E. Rejmankova, "Cache Slough/Yolo Bypass Monitoring Report," UC Davis, July 1994.

4. The chart of net gains/losses of cover type and habitat value for different alternatives on page 46 shows large net losses of shallow flood cover with the project. How are these losses calculated if the baseline condition is nonflooded agriculture?

Response: Shallow flood cover refers to land that exhibits shallow flooding in the winter due to retention ponding or seepage in the winter and spring, not the complete flooding currently exhibited on Prospect Island. Shallow flood cover is present on Prospect Island when the levees are intact and the land is being farmed. Page 3 of the Coordination Act Report includes a discussion of shallow flood cover.

5. On page 46, it is stated, "the non-Federal sponsor, DWR, would assume all O&M responsibilities for the Prospect Island project." A follow-up statement should be added to clarify that DWR will assume all O&M responsibilities AFTER the Corps and DWR complete a three-year post-implementation monitoring (or establishment) period. The Corps should provide in Chapter IV a description of the post-implementation monitoring in a separate section or under "Meeting Study Objectives." See comment 6 below.

Response: The Corps would pursue a 3-year establishment period, not a post-implementation monitoring period. Monitoring by itself is passive and only observes, measures, and reports what is taking place; establishment is a phase during which the project is monitored and also maintained by activities such as irrigating, weeding, and repairing. During the establishment period, O&M responsibilities for plant replacement would be cost-shared with the Corps. Further descriptions of the establishment period are included in the responses to chapter 1, DWR comment 1, and chapter 4, DWR comment 6.

6. On page 48, the Corps should describe post-implementation monitoring, authority for this monitoring, why it is needed, and the relationship to DWR's separate proposed monitoring for Prospect Island. This description should also be part of Chapter V on page 53 under Construction and Monitoring. [The DWR then provides a lengthy example of text that could be included.]

Response: The authority for the 1135 program is included in chapter 1. We believe that description of the establishment period in the ERR is sufficient. Prospect Island is not a pilot project for tidal restoration. In fact, the Corps has constructed at least four other tidally influenced wetlands restoration areas in the Delta, and other agencies, including DWR, have restored numerous other tidal wetland areas. The Corps typically allows for an establishment period for mitigation and restoration projects. As requested by the State, the typical 1-year establishment period allowed for tidal wetland projects would be extended to 3 years. Construction would be completed in 2 years; however, the establishment period would continue for 3 years.

7. On page 47 there is a recreation section that is incomplete. Tom Harvey from USFWS should be contacted and questioned as to what exactly will and will not be allowed (in terms of recreation) when Prospect Island is managed as part of the North Delta Wildlife Refuge.

Response: The Service is currently initiating their planning process for the North Delta Wildlife Refuge, as discussed with DWR staff at the November 17, 1997, meeting. The Service does not know "exactly" what "will and will not be allowed (in terms of recreation) when Prospect Island is managed as part of the North Delta Wildlife Refuge." The Corps defers these management decisions to the Service, the post-construction managers of Prospect Island.

8. On page 49 under "Potential Adverse Effects" there is a section on "water quality." One potential adverse water quality effect that is not addressed is leaching of pesticides and herbicides resulting from past farming practices on Prospect Island. Another potential adverse water quality effect is that increased organic carbon levels could have an impact on the North Bay Aqueduct.

Response: As part of the proposed monitoring plan for the project, DWR will monitor water quality, including organic carbon levels. If there are adverse water quality conditions affecting wildlife or drinking water quality, the Interagency Ecological Program Prospect Island Project

Work Team, the entity responsible for the monitoring of Prospect Island, will recommend actions to improve the water quality conditions, if feasible.

9. On page 50 it says, "A breach in the west levee of Miner Slough may direct higher velocity outflows from the interior of Prospect Island toward the east levee of Miner Slough, possibly resulting in increased erosion of the east Miner Slough levee." As a follow-up to this statement, it should state that if additional rip-rap is needed to protect the project levee, then the Corps and the nonfederal sponsor would be responsible for these added costs during the three year post-implementation monitoring or establishment period.

Response: This paragraph has been revised to read: "The east levee on Ryer Island (also the east levee of the Yolo Bypass) is part of the flood control project. Results of sonar studies conducted by Reclamation showed no erosion damage to the Ryer Island levee 6 months after the Prospect Island levee break in January 1997. This lack of erosion indicates that no increased erosion of the project levee would result from Prospect Island restoration. Furthermore, hydraulic models of alternatives 4 and 5 show that the lateral flow into Miner Slough dissipates significantly before reaching the east levee (See Appendix G). Water velocities decrease from 7 to 0 feet per second through the breach to 1 to 0 feet per second at the east levee. There would be minimal effect on the east Miner Slough levee due to the condition of the existing riprap on the Ryer Island levee and quality of the levee." Additional riprap would not be required at this location. With respect to the entire project, however, the Corps would cost share any necessary repairs that are approved by Corps Headquarters.

CHAPTER 5

1. On page 53, the fourth paragraph states "DWR would monitor the site subsequent to construction," should be corrected to state: "In a separate but related project, which may occur concurrently with the Prospect project post-implementation monitoring, DWR plans to monitor fisheries, wildlife, vegetation, water quality including disinfection byproduct precursors, zooplankton, phytoplankton, benthos and bathymetry.

Response: The text has been changed to reflect the comment.

2. On page 53, it states that "Should monitoring show that another breach is necessary to provide an alternative fish migration corridor or to increase water velocities, it is recommended that DWR or another agency pursue construction of the northern breach on Miner Slough as discussed in Alternative 4." If the project is not functioning as planned with sufficient water velocities, then this is a design deficiency, and it should be identified in the post-implementation monitoring period and the Corps and non-federal sponsor would have to consider what corrective actions could be pursued to meet project objectives, such as a northern breach on Miner Slough.

Response: A possible design deficiency is not the issue in this case. As discussed in the multiagency meeting on February 13, 1997, the project design is two southern breaches. Prior to the February meeting, the selected breach location was upstream on Miner Slough and downstream on the ship channel. All parties at the meeting agreed that the multiagency team would commit to two southern breaches to (1) avoid having to construct a bridge to maintain access for the 9-acre privately owned parcel and (2) shift the breach to an area that was identified as having breached before. At that meeting, it was decided that a hydraulic model would be constructed for the two southern breaches only. The question as to whether the team was sure that they wanted to move the breach downstream was asked several times during the meeting, and each time everyone (including DWR) agreed that the shift of breach location was the desired selected alternative. As a result, the Corps subsequently constructed the hydraulic model with two southern breaches, as agreed. Later, at the request of DWR, the Corps agreed to construct another hydraulic model for the north-south breach scenario. Water velocities for both breach scenarios were comparable, and both were acceptable. Also, as discussed at the February 13, 1997, meeting, the above statement in this DWR comment was inserted into the ERR to facilitate the subsequent CEQA process should DWR decide that they wanted to construct another breach at a later date as a separate action from this ERR. This statement has been deleted from the ERR.

3. On page 53, the second sentence of Construction and Monitoring should be modified to recognize the three-year post implementation monitoring period performed by the Corps and DWR and that DWR will also perform a separate but related monitoring project, which may be performed concurrently with the post-implementation monitoring. (See comment number 7 under Chapter 4.)

Response: The text has been changed to identify the establishment period. DWR comment number 7 under chapter 4 refers to recreation and does not seem related to this comment. In response to DWR comment 1 for chapter 1 and DWR comment 1 for chapter 5, some text in this DWR comment number 3 was incorporated into the ERR in chapter 5.

4. On page 53, add to the list of elements that DWR will monitor "disinfection byproduct precursors."

Response: The text has been changed to reflect the comment.

5. On page 54 under "Compliance with Environmental Laws and Regulations," the California Environmental Quality Act needs to be added.

Response: The text has been changed to reflect the comment.

CHAPTER 7

1. On page 60 it says, "DWR, the non-federal sponsor, supports the recommended restoration plan and would provide the real estate, relocation, and disposal requirements needed to implement the project and to allow for full restoration." It should be clarified that DWR will provide the necessary real interests as determined by the Corps and that the Corps has determined that DWR will not need to acquire property rights on Prospect Island where the land is already held by the Federal government.

Response: The text has been changed to reflect the comment.

APPENDIX A. GEOTECHNICAL REPORT

1. Until a site-specific soil study is conducted on Prospect Island to determine soil compositions, it should be assumed that there is peat soil on Prospect Island. Therefore, substantial consolidation and settlement can be expected. The internal islands should therefore be over built by more than 1 foot and other design features should be altered to account for this consolidation and settlement.

Response: Concur. The ERR has been revised to reflect a two-year construction period.

2. On page 4 under "Constructibility", the design report states that a minimum 3 year construction contract is required to compensate for settlement. The tentatively selected plan (alternative 5) on page 53 calls for construction to occur in one year. As part of the post-implementation monitoring, which extends the construction period, the Corps and nonfederal sponsor should monitor for subsidence. If subsidence occurs, the sponsors should correct the problem during this time as part of the project requirements to meet project objectives. The text of the PMR on page 53 should be changed to reflect the Geotechnical Report recommendations.

Response: The establishment period has been extended to 3 years. The construction period had originally been for 3 years. However, at the request of Category 3, the funding source for the non-Federal sponsor, the construction period was shortened to 1 year in order to expedite construction and save money on such time-oriented construction items as mobilization and demobilization. The islands had been overbuilt so that construction could occur in 1 year. However, at your request, we will extend the construction period to 2 years.

Subsidence would be difficult to correct following project construction because the island would be flooded. The island breaches would have to be plugged, and then the island would be drained to rebuild islands to their originally constructed state. Construction under wet conditions is possible, but difficult. The breaches would have to be dredged to allow a barge into Prospect Island. Island depths are so shallow that a barge would then likely be able to access only half the island. Also, see response to DWR comment for Appendix B, comments 1 and 2 and chapter 4, comment 9.

3. DWR Engineering agrees with recommendations a through h and the Conclusions on pages 4 and 5. These recommendations should be incorporated into the project design and on page 53 of the PMR project description for the tentatively selected plan.

Response: The remaining recommendations have been considered and applied where appropriate. The construction period had originally been extended for 3 years. However, at the request of Category 3, the funding source for the non-Federal sponsor, the construction period was shortened to 1 year in order to expedite construction and save money on such time-oriented construction items as mobilization and demobilization. The islands had been overbuilt so that construction could occur in 1 year. However, we will extend the construction period to 2 years.

APPENDIX B. CONFIRMATORY ENVIRONMENTAL SITE ASSESSMENT

1. The report states that the mobile trailer is no longer located at the northwestern part of the island on the Ship Channel levee. As of November 14, the mobile trailer appears to be back at the location. This trailer and the inhabitants should be removed from the site permanently.

Response: The trailer was removed prior to the Bureau's purchase of Prospect Island.

2. The recommendation in the site assessment calls for the cleanup and removal of all debris, refuse, and scrap. Plans should be made for this to be carried out before the project goes to construction.

Response: No waste, refuse, scrap and hazardous materials were found during the site survey conducted by the Bureau prior to their purchase in 1995.

3. SPA and SRA should be lumped under the SRA heading.

Response: Appendix B was taken out since it does not reflect current site conditions. No hazardous materials were found during the Bureau's site assessment survey prior to their purchase of Prospect Island in 1995.

APPENDIX C. ENVIRONMENTAL ASSESSMENT/INITIAL STUDY

1. Following the 1-page draft Finding of No Significant Impact, there should be a 1-page draft Proposed Negative Declaration.

Response: The Negative Declaration has been inserted into the EA/IS per the comment.

2. On page 4, add disinfection byproducts precursors to the list of elements in the DWR 3-year monitoring program.

Response: The list of elements has been revised per the comment.

3. On page 29 it states that sediment eroding from the Ship Channel levee could accumulate in the channel resulting in additional dredging. It should be stated as a follow-up statement that any additional dredging of the Deep Water Ship Channel would be the responsibility of the Corps under its existing authorities.

Response: See the response to DWR comment 2 for chapter 1.

4. In the description for alternatives 2, 3 and 5 on pages 5, 6 and 7, it states that fill material from the Port's property may be used. Does the ACOE have an agreement to allow the use of fill material from the Port's property? The PMR should explain how the Corps intends to obtain this material and other possible sources if the material cannot be obtained. If not, the sentence should be changed to only include fill material from Reclamation's property.

Response: Alternatives 2 and 3 have not been selected for implementation so no such agreement with the Port is necessary at this time. Alternative 5, the selected plan, does not require borrow material from off-site and therefore requires no agreement for borrow material. The words "and Port's property" have been deleted from the last bullet in section 2.3.

5. On page 15 under baseline conditions, it states that "Repairs and dewatering is anticipated to take place in the summer of 1997." Repairs have been initiated in 1997, but further repairs and de-watering are not anticipated to take place until the summer of 1998.

Response: The text has been revised to reflect the comment.

6. On page 35, there is a paragraph where toxicity bioassays from water samples taken from sloughs in the vicinity of Prospect Island are discussed. There is the sentence, "Chronic invertebrate toxicity (suppression of reproduction) was observed regularly on Prospect Island and Duck Slough during the irrigation season from March to September." The previous sentence says, "Three sites were screened in the northern Delta: Prospect Slough, Duck Slough, and Elkhorn Slough." Was the toxicity found on Prospect Island or in Prospect Slough? If the sample was taken from Prospect Slough, it should be clarified that Prospect Slough is on the other side of the Deep Water Ship Channel from Prospect Island. If the toxicity was found in one of the agricultural drains on Prospect Island, it should be clarified that Prospect Island has not been farmed since January 1997 when the island flooded and will have been out of agriculture for nearly three years by the time project construction is complete. The last sentence of the paragraph, "It is unknown how representative these three sites are of the future water quality of Prospect Island." should be changed to say, "it is not likely that there will be toxicity from pesticides on Prospect Island by the time habitat is established on Prospect

Island because Prospect Island will not have been farmed for three years. However, if needed, DWR will conduct toxicity monitoring as part of the postproject monitoring program."

Response: The paragraph has been deleted. The water quality data from these sites do not apply to the Prospect Island project.

7. For the same paragraph mentioned above, please clarify the relationship between Duck Slough, Elkhorn Slough, Prospect Slough and Miner Slough.

Response: The paragraph has been deleted.

8. On page 38, under water quality effects, there is a paragraph that refers to reducing agricultural drainage water and disinfection byproduct precursor formation. The paragraph incorrectly refers to pesticide and herbicide residues as the organic carbon precursors of disinfection byproducts. Humic materials are the precursors of disinfection byproducts. [The DWR then provides a lengthy revised text.]

Response: The paragraph has been revised to reflect the comment.

9. The potential for impact to the North Bay Aqueduct in terms of carbon loading should be discussed under water quality effects.

Response: The following paragraph has been added to section 4.7.2: "A potential water quality effect from the project could be an increase in dissolved organic carbon concentrations, which might increase the cost of treating drinking water for North Bay Aqueduct water users. As part of the proposed monitoring plan, the Interagency Ecological Program Prospect Island Project Work Team plans to monitor dissolved organic carbon concentrations in water discharged from Prospect Island."

10. Water quality data has been collected on Prospect Island through October (not June). (See attached data.)

Response: The dates in section 4.7.1 have been changed to "May through November 1997.

APPENDIX E. BASIS OF DESIGN

1. On page 1, assumption 3.4, "Construction will be scheduled for a one year time frame." This statement conflicts with the Geotechnical appendix, which recommends a three-year time frame of staged construction. This statement should be modified to be consistent with the Geotechnical recommendations. (Please see comment number 2 under Geotechnical Report.)

Response: The construction period was originally extended for 3 years. However, at the request of Category 3, the funding source for the non-Federal sponsor, the construction period was shortened to 1 year in order to expedite construction and save money on such time-oriented construction items as mobilization and demobilization. The islands have been overbuilt several feet higher so that construction could occur in 1 year. However, at your request, we will extend the construction period to 2 years. See response to DWR comment 2, Appendix F.

2. On page 1, assumption 3.4, "Future soils investigation will not impose unanticipated limits or phased construction." This statement should read "may impose unanticipated limits or phased construction" as outlined in the Geotechnical Report (appendix A).

Response: For the report, it was decided by the Prospect Island team to assume that soils would not impose unanticipated limits or phased construction beyond those already stated. To address these soils unknowns, the cost estimate reflects a contingency factor. If soils become a large cost factor, then the project may need to be scaled back or abandoned.

3. On page 4, under Monitoring, add a paragraph about post-implementation monitoring, as part of the construction period. Modify the second sentence by inserting "post-implementation and separate DWR" before "monitoring program for this project."

Response: The Prospect Island team has elected to extend the establishment/maintenance period for the revegetation to 3 years. The report has been revised to reflect the change.

4. The post-implementation or establishment period for the project should be a minimum of 3 years.

Response: See response to DWR comment number 3.

5. On page 6 under section 1.5 "Earthwork Consolidation", there is the statement "For this report, an assumption of 1 foot settling of earthwork will be incorporated." Based on DWR's Delta Test Levee program, typical one-year settlement for a 10-foot height of fill over a 20-foot thickness of organic soil would be approximately 5.5 feet. The report should adopt a more realistic value of settlement or provide justification for the value proposed. At a minimum, DWR suggests that the islands be overbuilt by at least 2-3 feet, unless soil explorations show that there is no jeopardy of significant consolidation and settlement.

Response: Based on site specific information, the Corps has observed that levees surrounding Prospect Island are relatively level and have not been subjected to subsidence. Nevertheless, the Prospect Island team discussed and decided to overbuild the island elevations by 1 additional foot, bringing the total overbuilt elevation to 2 feet (December 1997 meeting) if construction were to be accomplished in 1 year. However, construction will be accomplished over 2 years, therefore, the

islands will be overbuilt by 1 foot. Additional excavation after breaching was not considered an option.

6. As noted above, on page 6 under section 1.6 "Geo-technical", overbuilding by one foot may be insufficient to allow for consolidation and settlement. A contingency for greater than expected consolidation and settlement should also be discussed as part of a post-implementation monitoring program.

Response: See response to Appendix B, DWR comment 5.

7. On page 6 under "Earthwork" (2.1), there is the statement, "Top soil stockpiling of the first 18 inches within the channel area excavation will be done where practical." Top soil stockpiling should be required (see section 1.2.1 which says, "Top soil after grubbing will be stockpiled and saved for the last 1' of grading requirements of islands and berms.")

Response: The discrepancy in the text has been revised.

8. In Section G, which should be titled "Maintenance and post-implementation Monitoring" should specify that at least 80% vegetation cover should be established after the three year post-implementation monitoring period. The Corps and DWR, as the non-federal sponsor, will be responsible for correcting any deficiencies or problems of the project that are detected during this period.

Response: Upland plantings are to be added to the revegetation, and their success goal would be targeted to 80 percent in Section H. Only planted vegetation would have success goals. The report was taken out since the draft will continuously be revised until it is finalized after the end of construction.

9. Insert in Section G, "It should be noted that DWR will establish an Interagency Ecological Program Project Work Team to conduct post-project monitoring on Prospect Island. This Project Work Team should be used as a resource to determine whether the vegetation goals are achieved. "

Response: The Project Work Team has been noted in the report text.

10. On page 12 "Weed Control" it should be stated that Arundo (and any other noxious weed that out-competes natives) be eliminated from the site completely during the construction period and during the establishment period if deemed necessary.

Response: Arundo can be targeted for control. Weed control would be limited only to the planted areas of the project.

11. On page 11, Construction Schedule should be modified to include post-implementation monitoring, and extended to end the maintenance period on November 2003. Number 15 of Schedule should be modified to state "Start post-implementation maintenance and monitoring" and number 19 should be modified to state "End of 3 year maintenance and monitoring (establishment) period for project."

Response: The construction schedule has been revised to reflect the additional work and time.

12. On page 11 under Construction Scheduling and Sequencing, there is the statement, "This schedule assumes that all soils work and design work will be completed by July 1998 and no special construction restrictions are required." The construction schedule should be modified to reflect staged construction of embankments and the special requirements of performing construction over highly compressible peat foundations with a shallow groundwater table.

Response: See response to DWR comment 1, Appendix B.

13. On page 12, section 1.1.1. on Tuber/Plugs, there is a sentence, "Add 1 gm of slow release fertilizer per planting.' With the nutrient rich water and soil of the Delta, the added expense of fertilizer is probably not necessary for the emergent vegetation. As an experiment, fertilizer could be used for half of the upland trees.

Response: Information from the Corps Wetlands Experiment Station and field observations recommends the use of fertilizer for emergent plantings and pole cuttings for optimum vigor. Removing the fertilizer option could hamper meeting the planting establishment goal.

14. The Revegetation and Bio-engineering plant list on page 13 has a greater amount of seeds for the islands than the levee breach. What are these proportions based on?

Response: The proposed seeding rates are per recommendations from John Anderson of Hedgerow Farms, a native grass expert and grower.

15. On page 14, blue elderberry should be moved from the list of trees to the list of shrubs.

Response: There have been other comments from the Service, DWR, and DFG concerning this tree/shrub (both opinions). The Corps has elected to leave Sambucus under the tree list.

16. On page 15, the scientific name for Coyote Brush should be written "Baccharis pilularis" instead of "Baccharis pil. ssp. Consaguinea."

Response: The botanical name has been revised.

17. Under "Maintenance" (p. 15) it says "natural revegetation of native riparian volunteers will be encouraged through adaptive management." It needs to state exactly what will be done to establish natural revegetation - referring to adaptive management is too broad a statement. The sentence should be changed to read "Vegetation goals will be achieved through . . ."

Response: This section has been revised and "adaptive management" deleted. The project is now targeted for a 3-year establishment/maintenance program for the revegetation.

18. Under "Goal and success criteria" (p. 15) it says "the success criteria will be..... As a follow-up to this statement it should read, "if success criteria are not met, then additional plantings and/or earthmoving will be done in order to meet the success criteria."

Response: The success criteria are targeted for planted areas only and are part of the 3-year maintenance period; areas would be replanted if targets are not met yearly. No additional earthmoving would be part of the maintenance.

19. All eight islands should not be "long and linear". Islands should be created with as much edge habitat as possible and vary in width and length.

Response: Concur. The report states that these island shapes are dependent on costs and wave protection. Unfortunately, there is not enough funding to produce large varied islands. The 'string bean' approach is the most efficient method to meet the design goals.

APPENDIX F. ITEMIZED COST ESTIMATE

1. Due to the fact that the project is under budget, the additional funds should be used to:

- Extend post-implementation monitoring (establishment period) from 1 year to a minimum of 3 years. This establishment period should include repair of any levee failures and 80% plant cover which is necessary to meet project objectives.
- Create larger islands if possible.
- Do additional plantings if possible.
- Model the hydraulic impacts of having three breaches - the two southern breaches plus an additional breach at the North end of Miner Slough if possible.

Response: As discussed at the December 11, 1997, meeting in which DWR participated, project funds would be used to extend the establishment period to 3 years and plant and irrigate additional upland riparian plantings, which would also have a 3-year establishment period. Project funds are not available for levee repair. If the levee conditions appears to be impeding the project purposes and a cost-shared repair is approved by Corps Headquarters, the repairs would be cost shared. The Corps agreed to only one hydraulic model run (see response to chapter 5, DWR comment 2).

2. The $350,000 being contributed by the SB 34 program needs to be accounted for in the cost estimate.

Response: The cost estimate describes project costs, not funding sources. The SB 34 contribution will be noted.

APPENDIX G. OPERATIONS AND MAINTENANCE COST ESTIMATE

1. On page 1 under "Assumptions", item b., it says "local sponsor will be responsible for maintaining existing levees." It should be noted that the local sponsor will only be responsible for the maintenance of existing levees upon completion of the three year establishment period. During the three year establishment period, the Corps and the nonfederal sponsor will be responsible for repairing any levee failures and significant erosion to internal islands and perimeter levees in order to ensure that the vegetation has an opportunity to establish.

Response: See response to DWR comment 1, Appendix C. The Corps would provide additional erosion control plantings and replacement plantings during the 3-year plant establishment period immediately following the initial construction work. The costs for this additional work would be considered a construction cost. No changes were required to O&M information.

2. On page I under "Assumptions", item d, it says "Islands and levee benches will not require maintenance and will be allowed to change condition over time." The possibility that the islands and levee benches may require maintenance should be investigated and budgeted.

Response: "Lessons learned" from the performance of the Cache Slough Mitigation Area were incorporated into the design of Prospect Island to minimize O&M costs. O&M cost estimates include costs for maintenance and monitoring activities recommended by the Service. Because wetland processes are dynamic, changes in the project features over time were considered desirable. No changes were required to O&M information.

3. Under "Assumptions" on page 1, item e, it says that uncertainty exists about whether shoaling and sloughing of the Sacramento Deep Water Ship Channel will occur due to the project design. A follow-up statement should be added that says 'any additional dredging costs incurred would be the Corps' responsibility, and not the responsibility of DWR."

Response: See response to DWR comment 2, chapter 1. O&M information has been changed. (See paragraph 1.e. Paragraph 4.e regarding the ship channel was deleted.) Based on coordination with the Corps Operations staff, it was considered unlikely that significant amounts of eroded material would reach the ship channel due in part to the existing 30-foot berm between the

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channel and the west levee of Prospect Island. The Corps would continue to be responsible for maintenance dredging of the Sacramento Deep Water Ship Channel.

4. According to the O&M cost estimate, it is predicted that costs will average out to $69,000 per year. Most likely, costs will average much higher during the first few years while vegetation is being established and the islands, levees, and benches are stabilizing via the biotechnical plantings. During the first few years it will be important to repair any levee breaches that could lead to erosion of the internal islands. Once the vegetation has established, it may not be necessary to repair levee breaches.

Response: No changes to the O&M information were required.

APPENDIX H. HYDRAULIC ANALYSIS

1. The model run results for the preferred alternative (Alternative 5), show that there appears to be adequate circulation with two southern breaches. However, if after completion of the project, water quality monitoring shows that circulation is inadequate, then it should be noted in the PMR that an additional levee breach will be added at the northern end of Miner Slough. Additional model runs should be conducted to demonstrate the water circulation patterns and velocities if an additional breach were added at the northern end of Miner Slough.

Response: An additional model run was conducted at the request of the non-Federal sponsor. As discussed at the February 13, 1997, team meeting, the project design has two southern breaches. See response to DWR comment 2, chapter 5.

2. The hydraulic analysis should discuss whether any sedimentation is expected to occur and what will be done if sedimentation negatively impacts water circulation. On page ES-2 it states that the excavated channel will "ensure a flow-through system". As a follow-up statement it should state that IF sedimentation fills in the channel resulting in stagnation at the northern end of the island, then the sedimentation will be removed accordingly.

Response: As discussed in Chapter 4 of the ERR, the design of Prospect Island is not meant to operate at static equilibrium. The project was designed specifically to accommodate the natural dynamic processes of a functioning wetland ecosystem. See the ERR for further discussion of the issue of maintaining an artificial, constructed wetland such as Prospect Island at hydrologic equilibrium.

3. The hydraulic analysis should discuss whether channel erosion is expected to occur due to high velocities at the breaches. If erosion does occur and alters the slopes of the islands, berms, and levees, then plant establishment will be negatively affected. A contingency plan to

repair eroded portions of the islands and re-establish vegetation should be developed and described in this section, along with in the "Basis for Design" section.

Response: There appears to be no evidence that plant establishment would be adversely affected if some erosion occurs. In fact, the non-Federal sponsor requested a longer establishment period so that plants could be replaced. See response to DWR comment 5, Chapter 4.

OTHER

Soils are described differently throughout the report. [The DWR then gives several specific examples.] Although the exact soil nature is not known at this time, the description of the soil should be modified or clarified so it is consistent throughout the report.

Response: The text has been changed to reflect the comment. The sentence has been deleted.

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RESPONSES TO DELTA PROTECTION COMMISSION COMMENTS

PLAN FORMULATION

1. Clarify, with the use of maps, the proposed water depths on the site at various critical times of the year, including water elevations during Delta smelt and splittail spawning seasons, at high and low tides and during high water flow years. It would be helpful to understand how the water elevations at the site would be affected by high flows in the Yolo bypass.

Response: The water depths are shown on maps in Appendix B. The water-surface elevations on the maps are for normal conditions. The water levels are subject to short-term fluctuations, for instance, from storm events or from pumping as when Reclamation pumped Prospect Island dry in 1996. It was not necessary to map these short-term fluctuations since they do not affect the project. The stage in Miner Slough is given in Appendix H. The Corps modeled high flow conditions as part of the hydraulic analysis. This information is given in Appendix G.

2. Describe how the relocation of the second inlet to the site could affect use of the site by salmon migrating upstream, as well as the described use for salmon smolts migrating downstream.

Response: The second inlet was relocated to maximize tidal effects and minimize riverine influence, take advantage of a natural weak point in the levee, improve water circulation in the deepest part of the site, and avoid disrupting access to the 9-acre, privately owned parcel. It is not anticipated that use of the site by either in-migrating or out-migrating smolts salmon would differ significantly with a southern Miner Slough Breach than with a northern Miner Slough breach. In the Prospect Island Reconnaissance Report, it was noted that there is a head difference of about 1 foot between the northern and southern parts of Miner Slough; therefore, there may be less flow from Miner Slough into the ship channel with a southern breach than with a northern breach. Thus, if migrating salmon are affected by the breach relocation, fewer in-migrating fish may be attracted into the site from Cache Slough downstream of Prospect Island into the ship channel. Once in the ship channel, the opportunity for in-migrating salmon to use Prospect Island as an alternate migration path would continue. Moreover, since the southern breach is farther from riverine influence, outflows from this breach may be higher than outflows from a northern breach. Therefore, there may be an incremental increase in out-migrating smolt use of Prospect Island with the southern Miner Slough breach.

3. Describe more clearly and provide maps of the depth of water within the proposed channel. Currently, the channel is described as 6 feet deep and 300 feet wide. However, because of the change in elevation from north to south, the water depth over the unexcavated areas and within the channel will vary, and will vary based on the tide and other factors.

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Response: The water depths are shown in the graphics in Appendix B.

4. Describe proposed management of the site, including if the site will be managed for habitat purposes only or will there be some provisions for public access and/or recreation, and if there will be oversight of the site. In addition, the document should clarify whether there will be physical maintenance, such as removal of exotic plants, from the restoration areas.

Response: See response to Reclamation comment 75. The text of Appendix B has been changed to reflect the comment. Weed removal from the planted areas would be part of the 3-year establishment period.

5. The document should include descriptions of other sites in the northern portion of the Delta, i.e., north of State Highway 12, which are owned and/or managed for wildlife purposes, and how the proposed restoration project fits into regional goals for the Delta area. [The Commission then lists several specific sites.]

Response: Little Holland Tract is described in chapter 1 of the ERR. The text has been changed to reflect the comment. Other natural areas in the Delta are described in chapter 1.

RECREATION

1. At a briefing before the Commission in June of 1995, . . . Corps staff said boating would be allowed, but restricted to nonmotorized vessels. However, neither the 1995 Reconnaissance Report nor the current document clearly outline what public recreational opportunities could or will be provide as part of the project.

Response: See response to Reclamation comment 75.

2. The EA/IS states: "Although not designed for such activities, the proposed project would provide opportunities for bird watching, relaxing, and possible canoeing or kayaking. Access to the property via the road to Arrowhead Harbor would be available to FWS personnel and adjacent landowners who have a gate key." The project description should indicate where the locked gate is to located and should include a description of opportunities and restrictions for public access and recreation at the site including small boat launching, boating, fishing, hunting, hiking, biking, picnicking, wildlife observation, etc. The project should include a description and location of any proposed facilities such as signage, small boat launch ramp, parking, paved or unpaved paths, benches, fishing piers, fish cleaning stations, restrooms, etc.

Response: The text has been changed to reflect the comment. The Service, not the Corps, will be responsible for recreation and other management tasks. See response to Reclamation comment 75.

EVALUATION OF CONVERSION OF AGRICULTURAL LAND

1. Review of the Farmland Impact Rating in the EA/IS against the criteria outlines in Section 658.5 CFR for July 5, 1984, indicates that some of the scores may be inaccurate. Items 4, 6, 7, 9, 10, 12 should be reevaluated. [The Commission then provides additional information to be considered in the reevaluation.]

Response: Items 4, 6, 7, 9, 10, and 12 of the Farmland Impact Rating have been re-evaluated. The ratings from items 4, 7, and 9 have been changed. The scores for items 6, 10, and 12 remain unchanged. The evaluation in the draft EA was conducted under Federal regulations dating from before January 1997. The regulations were revised in January 1997, and now the farmland rating includes local protection. Our revised rating reflects this new policy change. The proposed project property, acquired from a willing seller by the Federal Government, has been zoned agricultural by Solano County, so we have increased the rating for protection. For item 6, we feel that the distance to urban support services is small; that is, Rio Vista, Isleton, and Courtland are all nearby. For item 10, the on-farm investments are minor, consisting of drainage ditches, and are currently under water. Last, for item 12, the restoration is highly compatible with existing agricultural use in the area. No additional restrictions will be imposed on the surrounding landowners as a result of the restoration.

2. If re-evaluation of the Farmland Conversion Impact Rating brings the site to over 160 points, the environmental document should be modified to include analysis of the impacts of the conversion of these farmland and should include possible mitigation.

Response: See responses to CDFA comments 1 and 2 for a further discussions of effects to farmland. Although the rating for Prospect Island is over 160, we feel that the Farmland Conversion Impact Rating is meant to be advisory. The Federal Farmland Protection Act asks Federal agencies to consider and avoid, if possible, effects to farmland. The act does not require mitigation for effects to farmland. Effects to farmland were considered in the development of the Prospect Island project design. Alternative sites and designs were considered in the reconnaissance report, which has been incorporated by reference. However, these alternative sites and designs did not meet project objectives and were not considered further. In the case of Prospect Island, the purpose of the acquisition was to "restore wetlands and fisheries" as described in the House Reports accompanying the Energy and Water Development Appropriations Acts of 1994 and 1995. Because the island was specifically purchased for wetland and habitat restoration, the types of alternatives considered were affected. Thus, it may not be appropriate to consider the types of alternatives listed in the regulations governing the Federal Farmland Protection Act.

Furthermore, there are other considerations that are not taken into account in the Farmland conversion rating. For instance, Prospect Island has flooded at least six times since 1979 and is currently flooded (greater than once every 3 years). Repair of levee beaches and pumping the

island dry following floods costs hundreds of thousands of dollars, in addition to the repairs of ditches, culverts, and other farming structures that require repair following a flood. Periodic flooding and subsequent levee repair limit the profitability of farming on Prospect Island and reduce the island's use as significant agriculture land.

3. The possible impacts to adjacent lands due to seepage should be studied more thoroughly and more clearly explained in the documents. The information in the document appears inadequate for evaluation of possible impacts; no possible mitigation is described.

Response: Several comments address the need for detailed analyses. Currently, all available ground-water data have been analyzed. Based on these data, there is no evidence that there is a link between Prospect Island flooding and Ryer Island seepage. Results of the ground water-surface water comparison are detailed in Appendix H, I and J of the ERR. Geotechnical analyses relating to general soil conditions and constructibility issues can be found in Appendix F of the ERR. See responses to comments from Kjeldsen, et al., and McQuaid, et al., and DWR comment 7.

4. The issue of buffers between newly created habitat and existing agriculture should be addressed.

Response: No buffer zone would be required for farmers neighboring Prospect Island. The northern landowner is separated from Prospect Island by a wide bench north of the Prospect Island levee; Ryer Island to the east is separated from Prospect Island by two roads and Miner Slough; and the nearest landowner to the west is separated from Prospect Island by the Sacramento River Deep Water Ship Channel. These "barriers" are provide adequate buffers from restoration on Prospect Island. The Port does not farm their property and therefore requires no agricultural buffer. No surrounding landowners' farming practices would be affected by Prospect Island restoration.

NO EXCAVATION ALTERNATIVE

1. The Corps should include an alternative with no excavation of the "floor" of Prospect Island. Other sources of fill material for levee reconstruction and island construction could be obtained from existing stockpiles of dredged material, or material to be dredged in the near future.

Response: Although using fill material from other sources was considered and described in the ERR, balancing cut and fill on-site is the engineering technique that was selected for two reasons: (1) it was desirable to create a main channel with dead-end sloughs to provide Delta smelt habitat and (2) it was the most cost-effective way to accomplish the project.

RESPONSES TO KJELDSEN, SINNOCK & NEUDECK, INC., COMMENTS

1. Our foremost concern relates to the cumulative flood hazard impacts on Ryer Island. The Prospect Island Project will significantly increase these hazards rather than just maintain them. The Prospect Island Project creates two new flood hazards. First, the adjoining levees and lands will be subjected to increased seepage. Secondly, there will be an extended risk to the adjoining levees due to wind waves generated across the flooded island.

Response: The comment expresses concern that flooding adjoining islands would result in increased seepage on Ryer Island. Even if the theory is supported in certain cases, it does not mean that a flooded Prospect Island would result in increased seepage on Ryer Island. Foundation seepage and ground-water conditions can be extremely variable and are sensitive to site-specific soil stratigraphy. We agree that a monitoring program of ground-water levels may be the best way to evaluate effects of seepage from adjacent flooded islands. All three of the reports' analysis (see Appendixes H, I & J) of the well data collected, including the crucial well data collected during the pumpout phase of Prospect Island during Fall of 1998, do not indicate a linkage to flooding of Prospect Island.

It is stated that seepage will occur on Ryer Island if Prospect Island is flooded. Seepage on Ryer Island already occurs during high water in Miner Slough. The question is, how much additional seepage if any could be expected on Ryer Island when Prospect is flooded. According to Mr. Neudeck, flooding of Mildred Island in 1983 is one example where inundation of one island resulted in increased seepage in a neighboring island. This may be true. However, the Mildred Island is located 15 miles from Prospect Island; soil conditions in the Delta are highly variable. Furthermore, the elevations of the Mildred Island are at -14 feet versus about 1 to -4 feet for Prospect Island. Also, geotechnical analyses can only estimate the potential for increases in seepage. It may never be known with a great degree of certainty what if any increase in seepage could occur on Ryer Island. Please see response to Reclamation comment 7.

Prospect Island has been designed to minimize wind and wave erosion on the interior of Prospect Island. Embankment material would be used to create a 10H:1V slope on all interior levees. In 1997, it was observed that interior levees of Prospect Island that already have a 10H:1V slope experienced no erosion from wind-generated waves. Furthermore, since the Prospect Island levee on Miner Slough will remain intact, there would be no effect on the Ryer Island levees. See also pages 1 through 4 of December 3, 1998 letter to Michael Van Zandt, which further describes the Corps' analysis and response to this comment.

2. The degree and extent of seepage to be expected on this project is difficult to predict and the correction is technically difficult and costly to implement. There is no question that seepage

will occur and that it can be attributed to the flooding of Prospect Island. The challenge is to identify the degree and extent of the seepage through the development of a monitoring program, which would include, a detailed geotechnical investigation. This investigation and monitoring program must be developed in advance of the Plans and Specifications stage of this project and preferably prior to an EIR/EIS. Provided an EIR/EIS were prepared, the District would be granted an opportunity to evaluate sound technical data that would be properly collected over an extended period of time. [The letter provides additional details of a potential seepage monitoring program and mitigation measures.]

Response: We disagree that "there is no question seepage will occur and that it can be attributed to the flooding of Prospect Island." If and how much increased seepage may occur is difficult to estimate even if a detailed analysis were conducted. Furthermore, a detailed geologic investigation and seepage study would not provide conclusive data on the question of seepage. Evaluating well data provides more direct and indisputable information with regard to seepage. We have gathered enough supporting data through our monitoring program using the existing wells and seepage measuring devices in place on Ryer Island (See Appendixes H, I & J). See response to Reclamation comment 7. Also, see pages 1 through 4 of December 3, 1998 letter to Michael Van Zandt, which further describes the Corps' analysis and response to this comment.

3. Ryer Island is not willing to accept a reduction in levee stability that may result in increased piezometric conditions beneath their levee. Ryer Island will require the Corps to mitigate the reduction by implementing one of the above mitigation measures preferably on Prospect Island's side. If it is necessary to mitigate on Ryer Island's levee, then it is anticipated that the landowners will be fairly compensated for any losses due to construction of the mitigation measure.

Response: Even if additional foundation seepage were to occur from flooding of Prospect Island, it is unlikely that flooding of Prospect Island will result in unstable conditions of the Ryer Island levee. The increase in foundation pressure would likely be imperceptible, and the saturation line in the levee would not be influenced by flooding of Prospect Island. Also, see pages 1 through 4 of December 3, 1998 letter to Michael Van Zandt, which further describes the Corps' analysis and response to this comment.

4. There is an extended flood hazard risk to Ryer Island levees due to wind waves generated across the flooded island. Appendix H outlines the analysis to determine the magnitude of wind induced wave action. The report states that "although the primary wind direction is from the south-east, the greatest wind-wave runup is caused by a north wind." The report states that "without some type of bank protection, levee erosion is likely along the north levee." Since the wave height is approximately the same for the south-east direction (2.1 feet) versus the north direction (1.8 feet), one can derive the same conclusion that bank protection will be necessary to protect the levees against erosion. Nowhere in the report is this bank protection and erosion issue addressed. Biotechnical plantings are the only type of protection method mentioned.

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Vegetation used as erosion protection rarely works against wind driven waves of the magnitude that can be expected across Prospect. The wind speed used to calculate the wave height does not consider the maximum wind speeds that can be generated in the winter months in Sacramento. The fastest overwater wind speeds with recurrence intervals of 50 and 100 years are estimated to be 70 and 73 miles per hour, respectively, for Sacramento (Corps, 1978).

Response: See response to comment 1. Appendix G does state that "without some type of bank protection, levee erosion is likely along the north levee and the cross levee during flood events." Depending on the levee soil composition, however, erosion could occur at various locations around the island. The appendix is simply stating which areas would most likely experience wave erosion based on prevailing wind direction, levee slope, fetch length, angle of incidence, and average water depth over the fetch. The report addresses bank protection. The levee breaches would be riprapped, and the newly excavated materials would be protected against erosion using plants. Plants have been used effectively at the Cache Slough/Yolo Bypass mitigation site. The biotechnical bank protection successfully protected the north levee, which is also subject to north winds. Wave heights of 2.1 feet and 1.8 feet were measured during high water and apply to storm events of great magnitude. The islands would be at an elevation of 5 feet, with vegetation growing several feet above that elevation. The barrier of islands and plants would diminish fetch distances. For the Prospect Island wind-wave analysis, wind data from Stockton were used to derive the design wind speed and, subsequently, the wave runup values. Stockton data were used since it was felt that it would be more representative of winds in the Prospect Island area. The design wind is not derived for a specific frequency such as 1 in 100 or 1 in 50 annual event, but represents a critical combination of wind direction, wind speed, and fetch length.

5. Appendix A "Geotechnical Report," Page 5 states that it will take 5 to 8 years to build the interior mounds. This estimate is optimistic considering these mounds are being built on a foundation with up to 21 feet of peat. The actual estimate of time will be closer to 10 to 12 years, unless consideration is made to remove all of the underlying organics prior to commencing with any fill for the mounds.

This design for building of soft foundations will require staged construction over the suggested period of time. This staged construction spanning numerous years will also be applied to the flattening of the levee slopes. Yet, page 4, Attachment E, under the preferred Alternative 5 indicates that "construction will take place in the dry over a 1 year construction period." There seems to be confusion as to the complexity of constructing such a facility. This report has not adequately addressed the time it takes to properly construct earthen fills over deep peat areas. To avoid the ultimate failure of the project, the problem requires additional analysis and planning from experts that are familiar with this type of construction.

Response: Although it may take up to 10 to 12 years to consolidate, 80 to 90 percent of that settlement would be realized within about 8 years. The Geotechnical Appendix states that a minimum construction period of 3 years would be required. According to the soils appendix, a 3-

year construction period would be optimal. The construction period had been originally envisioned to extend for 3 years. However, at the request of Category 3, the funding source for the non-Federal sponsor, the construction period was shortened to 1 year in order to expedite construction and save money on such time-oriented construction items as mobilization and demobilization. However, in order to address your concern, the Corps will extend the construction period to 2 years. Also, see responses to DWR comments for Appendix F, comment 2, and Appendix B, comments 1 and 2.

6. Page 13, last Paragraph "Soils": Reference is made that "there is very little peat soil in the project area (Appendix A)." Appendix A notes that organic soil vary in thickness from 2 - 21 feet. This inconsistency needs to be resolved.

Response: Concur. The text has been changed to reflect the comment.

7. Page 13, last Paragraph "Water Supply": "Increased Delta smelt larvae may occur as a result of increases in shallow-water habitat associated with Prospect Island. This may cause additional restrictions on pumping at the Barker Slough diversion." Ryer Island anticipates that this same impact will exist on their diversions for irrigation. The Corps must therefore assure Ryer Island that there will be no restrictions placed on any of their diversions resulting from this increased smelt population caused by the Prospect improvements.

Response: The endangered species office of the Service was consulted regarding this issue. They informed the Corps and DWR that no new or additional restrictions would be placed on Ryer Island as a result of Prospect Island restoration. Ryer Island would not be singled out for diversion restrictions.[1]

The Service's biological opinion also specifically addresses the potential increase in the delta smelt population due to the Prospect Island project. Section 4(b) on page 20 of the opinion states that a "monitoring plan will be developed and submitted to the Service to provide baseline information to allow an estimation of delta smelt numbers and distribution in the Barker/Lindsey/Cache Slough-Prospect Island area. If this monitoring shows increases in delta smelt number and distribution when Prospect Island has become operational as a shallow-water habitat, the Working Group will meet and make recommendation to the Service to amend the biological opinion limitations." The Service's intention is to evaluate the delta smelt population and not require additional pumping restrictions at Barker Slough (and elsewhere) when the risk to the overall smelt population is low.

With respect to limitations on pumping because of increased larval smelt production in Prospect Island due to the project, the Service indicated that it is not their intent to increase

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[1] Personal communication, Mike Thabault, Service, 5 March 1998.

pumping restrictions as a result of such increases when risk to the overall delta smelt population is low. The Service's 1996 Recovery Plan indicates that wide distribution and high numbers of rearing juveniles (one of the objectives of the Prospect Island project) have been shown to lower risk to delta smelt. If successful, Prospect Island and similar restoration efforts should actually lower the overall risk to the delta smelt population and therefore require fewer pumping restrictions.

8. Page 49, first Paragraph "Water Quality": "Decreased flows in Miner Slough could result from this project. The decreased flow may degrade water quality in the slough." Ryer Island landowners cannot sustain any reduction of water quality resulting from this project. Ryer Island landowners rely on the water in Miner Slough to irrigate their crops. Therefore, any negative impacts to its quality will have a significant impact and must be fully mitigated.

Response: The text has been changed to reflect the comment. The Central Valley Regional Water Quality Control Board was consulted for a more definitive analysis of the effect of the project on water quality. The Board found that the project would benefit the water quality in the area and would not have adverse effects. Furthermore, the project area has associated riparian water rights. Since Reclamation would no longer exercise those water rights, there would actually be a net increase in water supply and quality.

9. Pages 50 and 51, fifth Paragraph "Seepage": "Performing any analyses without site data would not result in reliable conclusions. The proposed exploration and survey data would be obtained during the plans and specifications." Without additional studies of seepage conditions, the proposed design is unreliable. The Corps should not wait until the plans and specifications stage to undertake gathering this time-sensitive data. As part of the EIR/EIS process, the Delta Wetlands Project collected seepage data for analysis over a period of 8 years prior to presenting it for public review. In contrast, this report only collected data over several months.

Response: We agree that geotechnical explorations to determine constructibility should be conducted. During preparation of plans and specifications, explorations along the proposed interior channel will be made to determine site-specific conditions. If any pervious soil layers are exposed, impermeable geomembrane material will be placed along the cut invert during construction. Seepage data have been collected over a period of 2 years and are discussed in the ERR. Please see response to Kjeldsen, Sinnock, and Neudeck comment 2.

10. Page 56, sixth Paragraph "Further Studies": "Soil explorations should verify that construction of Prospect Island would not cause additional seepage of ground water on neighboring Ryer Island." What basis do you have for saying this? Historical events seem to easily contradict this statement.

Response: This sentence has been deleted.

11. Appendix A "Geotechnical Report," Figure 1: The proposed borrow area for this project is in the area of the deepest peat. Does the Corps plan to strip away the 20+ feet of peat to get to suitable material or try and incorporate this highly organic, unstable material in as fill?

Response: The geotechnical appendix includes very preliminary data. The material proposed for borrow in the geotechnical appendix is from a dredge disposal area that consists of organics, clay, and sand. Although these materials are not considered ideal mineral soils, they are not significantly different from existing levee materials in many parts of the Delta and in fact would be more stable when constructed to relatively flat slopes (1V:4H and 1V:12H) and low fill heights. However, for the tentatively selected plan, the fill material would be excavated on site, not in the borrow area, where there is less peat material. These materials would be more ideal for the creation of the levee embankments and islands.

12. Appendix A "Geotechnical Report," Figure 2: A fact that appears to be overlooked is that water will now be up on both the land and waterside slopes of the levee. Depictions of the design levee section must show water-surface elevations of equal height on both sides of the levee and not just on the riverside. This condition must be considered when evaluating the static and dynamic stability of Prospect's surrounding levee. Not only will the hydraulic parameters affect the waterside slopes, but they will now also affect the landside slopes. Saturation and rapid drawdown are features that must be considered and designed for when considering the parameters effecting the long-term stability of Prospect's levees.

Response: Figure 2 is a tentative section only and is not meant to represent Prospect Island restoration in its operating condition. After construction, the Miner Slough and ship channel levees would no longer function as levees. The ship channel levee and Miner Slough levee would be left to naturalize with vegetation unless the 9-acre privately-owned parcel is not acquired for the project, then Miner Slough would be operated and maintained as an elevated roadway to serve and as a windbreak between Prospect Island and Ryer Island. The wind break would be maintained, even if the levee is no longer required as an elevated roadway. The north and south levees would have water on one side only. For illustrations of Prospect Island in its operating condition, please see Figures 1, 2, 3, and 4 in the ERR. Water on both sides of the levee does not reduce levee stability in terms of slope stability or seepage stability.

13. Appendix C "Environmental Assessment/Initial Study," Page 28, Paragraph 4.5.1 Baseline Conditions: The first paragraph states: "A soil analysis and seepage study based primarily on county soils maps found that some seepage could result from piercing any impermeable layer on Prospect Island (Corps, 1997). Both analyses concluded that additional data should be taken before a final analysis is made about the seepage effect of a flooded Prospect Island on Ryer Island." The need to gather more data is the basic concern. How can the Corps conclude that the proposed project will not result in significant impacts when the potential impacts have not even been studied or measured?

Response: Studies to date do not identify any significant adverse seepage effects on Ryer Island. Explorations conducted along the proposed cut will provide information for berm construction and foundation conditions.

14. Appendix C "Environmental Assessment/Initial Study," Page 45, Paragraph 10.0 List of Preparers: No engineer assisted in the preparation of this report, yet numerous engineering conclusions were drawn throughout the report.

Response: The EA/IS incorporates the information in the ERR and appendixes by reference. Although environmental specialists prepared the EA/IS, engineering information in the EA/IS has been taken from the ERR and technical appendixes, all of which have been prepared by engineers, biologists, and landscape architects. Prior to finalizing the EA/IS, engineers have thoroughly reviewed the document for technical accuracy and consistency.

15. Appendix E "Basis of Design," Page 5, Paragraph D1.3: 1,000-foot setback zones from Prospect's levee toe for excavation will not preclude seepage from transmitting to Ryer Island. The setbacks will lengthen the seepage path but not eliminate the potential for seepage.

Response: Appendix B does not indicate that 1,000-foot setback zones from the levee toe will preclude seepage. The appendix merely states that a setback no-excavation zone has been set. See response to Reclamation comment 7.

RESPONSES TO LOWER COSUMNES RESOURCE CONSERVATION DISTRICT COMMENTS

1. Although Prospect Island is not in an RCD District, an extension of an adjacent or creation of a new RCD of Prospect Island would be appropriate.

Response: Although Prospect Island could be part of a larger RCD, we believe that the project would best be managed by the U.S. Fish and Wildlife Service (Service) for now. The Service is currently in the process of incorporating Prospect Island, Liberty Island, and Little Holland Tract into a new North Delta National Wildlife Refuge. The Service will receive funding through an endowment fund which DWR has been granted for purposes of operating and maintaining Prospect Island.

We also discussed the possibility of extending an existing RCD or creating a new one with the Dixon Field Office of the Natural Resources Conservation Service. Currently, there are no existing RCD's adjacent to Prospect Island, and since the project involves only one Federal landowner, it would not to appropriate to create a new RCD including only Prospect Island. However, Mr. Walt Cheechov did indicate that a new RCD is being planned that would include the entire Delta. As a result, Prospect Island is likely to be incorporated into this Delta-wide RCD in the future.

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RESPONSES TO SOLANO COUNTY WATER AGENCY COMMENTS

1. Change "Solano County Irrigation District" to "Solano County Water Agency."

   Response: The sentence has been revised per the comment.

2. Change "resolved" to "reduced."

   Response: Same response as #1.

3. Change "would" to "may."

   Response: Same response as #1.

4. Same comment as #1.

   Response: Same response as #1.

5. Same comment as #2.

   Response: Same response as #1.

RESPONSES TO MCQUAID, METZLER, MCCORMICK & VAN ZANDT, L.L.P., COMMENTS

On behalf of Islands, Inc., this legal firm requests that an environmental impact statement/environmental impact report be prepared under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Moreover, they formally request that a public hearing on the proposed action be held as soon as possible. Reasons for these requests are listed by number and discussed in detail.

1. The project environmental assessment/initial study (EA/IS) fails to analyze reasonable alternatives to the project.

All alternatives that were considered in the project report and the EA/IS require the flooding of Prospect Island and the breaching of the levees at Miner Slough, except the no action alternative. A reasonable alternative to this project would be to identify other suitable areas with the same geographic region for habitat restoration. Prospect Island is not the only suitable site for such an activity. The EA/IS fails to even identify the criteria used to determine that Prospect Island is the only suitable site for the restoration project. Moreover, the EA/IS considers breaching of the levees at Miner Slough and fails to consider any reasonable alternatives to that action. The breaching of levees on Miner Slough may have a significant impact on Ryer Island. This impact must be analyzed and alternatives suggested, such as flooding Prospect Island without breaching the Miner Slough levees or providing adequate mitigation to prevent impacts on Ryer Island from Miner Slough levee breaches.

Response: The ERR indicates that other alternatives were considered during the reconnaissance phase of the study. These alternatives were discussed in the reconnaissance report, which is incorporated by reference into the ERR. Prospect Island was the only site considered for the project because it is the only site that received non-Federal support for cost sharing. The reconnaissance report identified other alternatives to breaching Prospect Island, but these alternatives were eliminated from further consideration because they would not meet the restoration criteria of providing freshwater tidal wetland habitat necessary to provide habitat that may be beneficial to Delta smelt. Other breach scenarios were considered that did not involve breaching the Miner Slough levee. These scenarios were not considered further because a project that did not have a breach on the Miner Slough side would not have benefited outmigrating juvenile salmon. Furthermore, there is no evidence to date that there is an effect on Ryer Island that requires mitigation. Hydrologic data indicate that there is no effect.

2. The EA/IS fails to adequately analyze the potential environmental impacts of the proposed action because it did not develop information necessary to determine seepage at Ryer Island.

The Project Modification Report concludes that seepage occurs at Ryer Island and proposes that exploration and survey data is needed to conclude whether flooding of Prospect Island or the stage at Miner Slough is the cause of the seepage. The report also admits that borings at three or four representative locations might answer the question of seepage cause. However, the EA/IS concludes that despite these unknowns the seepage is most likely coming from Miner Slough. The report also indicates that development of the relevant information to resolve this issue must wait until the plans and specification stage of the project.

The report indicates that the information is relevant, that there is a related adverse impact, and that the information necessary to resolve the determination can be developed with a few soil borings. Under NEPA, the Corps is obligated to develop the information before completing the environmental document. With this basic information lacking, the Corps must analyze a worst case scenario in which all of Ryer Island would be flooded by Prospect Island or the agricultural lands on Ryer Island would be unusable due to seepage and must conclude that the project would have a significant environmental impact. Such a conclusion would require the preparation of an EIS or the adoption of specific mitigation to prevent the seepage on Ryer Island. Under CEQA, if a "fair argument" can be made that the project may cause environmental impacts, then the agency must prepare an environmental impact report or propose and adopt mitigation to avoid the impacts.

Response: The ERR does not indicate that there is a "related adverse impact." On the contrary, hydrologic data from wells on Ryer and Prospect Islands and gauging stations in Miner Slough do not indicate that there is any seepage effect on Ryer Island. Please see Appendices G, H, I and J which provide data and analysis to support this conclusion. Since there is no scientific evidence indicating that Prospect Island has an effect on Ryer Island and there is scientific data indicating that there is no effect of Prospect Island on Ryer Island, an EIS is not required based on Ryer Island. The text in Section 4.5 of the EA/IS has been clarified. Please see response to Reclamation comment 7.

3. The EA/IS should have analyzed the potential impacts from the project on fish migration patterns, predator species intrusion, water quality degradation, erosion of levees, potential disruption of access to islands, and ship channel degradation.

The alternatives listed in the report and analyzed in the EA/IS raise significant issues concerning fish migration patterns, predator species intrusion, water quality degradation, erosion of levees, potential disruption of access, and ship channel degradation. The report indicates that these are all impacts which could result from the proposed action but there is insufficient information to determine if such impacts will result. Moreover, no specific mitigation is devised to address these impacts and the

document is devoid of any in depth analysis, dismissing the problems as ones that will be dealt with as the adverse situation arises.

Islands, Inc., is concerned about the potential for levee erosion. The Corps must provide sufficient assurances through its environmental and engineering analysis that this project will not result in failure of a levee. There are significant questions about wind and wave erosion effects on the levees and the ability of the Corps design to withstand the 100-year erosion forces in the Delta. The Corps must provide an analysis of the design that will adequately demonstrate that there will be no adverse effects on existing farms around the project. The Corps has failed to evaluate a levee system where the water is on both sides of the levee, as opposed to the usual situation where water is on one side and land on the other. This significant difference requires much more in-depth analysis and supporting evaluation before a conclusion can be reach on significant impacts.

Response: The EA/IS has adequately addressed environmental effects on the environment. Measures in the design, such as water depth control, avoidance of large areas of deep water, and avoiding fish entrapment, have been included to avoid predator fish intrusion. Fish migration patterns would not be disrupted, and water quality, levee erosion, access, and ship channel effects have all been addressed adequately in the EA/IS and the ERR, which has been incorporated by reference. No mitigation is required because no significant effects would result.

For a further analysis of levee erosion, see Appendix G, which has been incorporated by reference into the EA/IS. Since Prospect Island would no longer need flood protection, it would no longer need flood control levees. The ship channel levee would function as a temporary windbreak and permanent habitat substrate. If the 9-acre parcel of land is not purchased by DWR, the Miner Slough levee would continue to function as an elevated access road to serve the privately owned 9-acre parcel. Even if the Miner Slough levee is no longer required as an elevated roadway, project design with vegetation, levee benches and barrier islands would reduce wind fetch so that any erosion would be insignificant. The two cross levees would only have water on one side. No levees would have water on both sides; therefore, an analysis of the effect of water on both sides of a levee is not warranted. Please responses to Kjeldsen, Sinnock, and Neudeck comments 4 and 12.

4. The draft Finding of No Significant Impact fails to meet the requirements of NEPA because it does not state even in a summary fashion why the project will not have a significant impact on the human environment.

CEQ regulations require that the agency in drafting a finding of no significant impact (FONSI) must state in summary fashion why the project will not have a significant impact on the human environment (40 CFR 1508.13). The FONSI must also articulate why the Corps believes that it is not necessary to prepare an EIS and the reasons for that decision.

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The draft FONSI does not address the potential environmental impacts from the project. The EA/IS contains mitigation that must be adopted by the agency in order to avoid significant impacts. These mitigation measures are not mentioned, and there is no indication that the Corps is committed to adopting and implementing them during the project. For these reasons, the FONSI does not meet the requirements of NEPA.

Response: The Corps believes that FONSI meets the requirements of 40 CFR 1508.13. CEQ regulations state that "if the assessment is included, the finding need not repeat any of the discussion on the assessment but may be incorporated by reference." The EA is incorporated by reference in the FONSI and states why the project would not have a significant effect on the human environment.

5. The EA/IS does not reference all of the reports and studies of the project modification report, and the EA/IS was not prepared by qualified engineers that can analyze reports dealing with levee engineering, flood control, hydrology, soil erosion, endangered species protection, and water quality issues.

The list of references for the EA/IS does not include many of the reports and documents cited in the Project Modification Report. Also, the EA/IS was neither prepared by nor reviewed by any engineers. This makes any conclusions by the EA/IS as to levee construction, seepage, soil stability, hydrology, water quality, etc., very suspect. Under NEPA and CEQA, the agency is required to involve qualified experts in the various areas being analyzed to ensure the scientific accuracy of the information contained therein.

Response: See response to Kjeldsen, et al., comment 14.

6. The EA/IS fails to address indirect effects of creating habitat on adjoining farm tracts, such as buffer zones, pesticide and herbicide use, and irrigation water runoff.

As a result of the establishment of the habitat at Prospect Island, certain activities could be prohibited or curtailed. These activities may include setting of buffer zones to avoid interference with the habitat, prohibitions on the use of certain pesticides, herbicides and fertilizers near the habitat, and the control of irrigation water runoff. Of particular concern to the Reclamation District is the inability to control weeds and other growth on the levees. Such growth, if left uncontrolled, may weaken the levees and cause a premature breach. The EA/IS fails to evaluate these impacts on adjoining farmland. The project could increase the chance that flooding could occur or that farmland could be rendered useless. Thus, the conclusion that the project will not affect land use except at Prospect Island is erroneous.

Response: The future refuge manager for Prospect Island was consulted regarding the curtailment or prohibition of certain activities, such as buffer zones. The Service would not

impose additional restrictions on farming operations beyond what is described on the labels of the agricultural chemicals (Tom Harvey, Service, 24 February 1998, personal communication). See response to Delta Protection Commission Evaluation of Conversion of Agricultural Land, comment 4, and responses to Kjeldsen, Sinnock and Neudeck, Inc., comments 1, 2, 3, and 4.

7. The EA/IS fails to address the issue of endangered species being sucked into irrigation pumps and the potential impacts of farming operations.

The EA/IS indicates that endangered species will inhabit the area of Prospect Island in increasing numbers. There is a very brief discussion of the problem with endangered fish being sucked into the irrigation pumps of farms. What is not discussed is the requirement that the farms may have to replace their pumps with very expensive equipment that will prevent or reduce the migration of the fish into the pumps. The impact of this change could preclude farmers from continuing to farm in various areas or could make it so economically difficult that they must abandon farming. The EA/IS is inadequate in its treatment of this impact.

Response: The endangered species office of the Service was consulted regarding this issue. They informed the Corps and DWR that no new or additional restrictions would be placed on Ryer Island as a result of Prospect Island restoration. Ryer Island would not be singled out for diversion restrictions.[2] See response to Kjeldsen, et al., comment 7.

Personal communication, Mike Thabault, Service, 5 March 1998.